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Mobilizing for Safe Drinking Water: A Blueprint for Action

John F. Kennedy School of Government, Cambridge, MA

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Forging cooperative relationships among numerous agencies and organizations affected by the amendments can help ease the burden compliance. Such partnerships are necessary because EPA and state agencies alone can provide only a fraction of the technical, managerial, and financial assistance needed to facilitate compliance.

This report describes the crisis in primacy (primary enforcement authority) that state drinking water program's face in light of the SDWA amendments and the urgent need for increased resources necessary to retain primacy. Recommendations for designing a state Mobilization Program are presented, drawing on examples of cooperative efforts in other states. An eighteen month action plan for EPA regional water supply staff is included.

The blueprint should be used by EPA and state drinking water officials and other individuals who have an interest in ensuring the continuous provision of safe drinking water to the nation.

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Mobilizing for Safe Drinking Water

A Blueprint for Action

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Summer 1990

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ABSTRACT

Mobilizing for Safe Drinking Water: A blueprint for action

The 1986 amendments to the Safe Drinking Water Act (SDWA), which are being phased in over several years, are designed to protect public health against both the short- and long-term effects of over 200 contaminants. Compliance will place a tremendous strain on state drinking water programs and thousands of public water systems, particularly small systems serving fewer than 3,300 people.

Forging cooperative relationships among the numerous agencies and organizations affected by the amendments can help ease the burden of compliance. Such partnerships are necessary because EPA and state agencies alone can provide only a fraction of the technical, managerial, and financial assistance needed to facilitate compliance.

This report describes the crisis in primacy (primary enforcement authority) that state drinking water program's face in light of the SDWA amendments and the urgent need for increased resources necessary to retain primacy. Recommendations for designing a state Mobilization Program are presented, drawing on examples of cooperative efforts in other states. An eighteen-month action plan for EPA regional water supply staff is included.

The blueprint should be used by EPA and state drinking water officials and other individuals who have an interest in ensuring the continuous provision of safe drinking water to the nation.

This blueprint was prepared by Mary Ann Hill, a National Network of Environmental Management Studies Fellow, for Peter Karalekas, Jr., chief of the Water Supply Branch, US EPA Region I. Ms. Hill is a candidate for a Masters in Public Policy degree at the John F. Kennedy School of Government at Harvard University.

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Mobilization: Creating action-oriented partnerships

We all want consistently safe drinking water. But today's economic and industrial growth pose greater threats than ever to our water supplies. The 1986 amendments to the Safe Drinking Water Act (SDWA) are designed to protect public health against both the short- and long-term effects of these contaminants.

The regulations are strict, calling for the monitoring of more than 200 chemicals by the year 2000. Compliance will be very expensive, but it is an investment we must make. In brief, the amendments call for:

- an increase in the number of regulated contaminants to nearly 200 by the year 2000;
- filtration for nearly all surface water systems and disinfection for all surface water and many groundwater systems;
- a ban on lead-based solder, pipe, and flux materials.

Recognizing the scope and seriousness of the challenge of compliance with the SDWA requirements, the Environmental Protection Agency (EPA) has undertaken a broad and far reaching mobilization effort to bring the resources and talents of all groups affected by the regulations to bear on their implementation. The concept of Mobilization is best expressed by the adage, "Many hands make light work."

The concept of Mobilization is best expressed by the adage, "Many hands make light work."

Forging cooperative working relationships among federal agencies, State drinking water programs, business and civic groups, educational institutions, local water systems, and industry groups can help ease the burden of compliance. In fact, such partnerships are necessary because EPA and State agencies alone can provide only a fraction of the technical, managerial, and financial assistance needed to facilitate compliance.

The groups involved in Mobilization include those traditionally associated with the water industry such as the American Water Works Association, the National Rural Water Association, and the Association of State Drinking Water Administrators as well as those new to the industry such as the Grocery Manufacturers of America and the Manufactured Housing Federation.

EPA recognizes that many State programs already have established successful working relationships with agencies and organizations concerned with safe drinking water and have realized the benefits that such cooperation can bring. EPA's Mobilization Program is an effort to expand these efforts to all States, to encourage partnerships in a more structured and comprehensive manner in order to yield even greater returns.

Creativity, effort, and patience are needed to forge these new partnerships. New lines of communication and cooperation must be opened and maintained. Relationships between organizations must be redefined and expanded from the traditional regulator-regulatee mode;

any past difficulties and "turf battles" must be put aside in a spirit of cooperation and mutual self-interest. The path will not be easy, but the potential and need for cooperation has never been greater.

EPA and State programs must pursue three principal objectives:

1. **Strengthen the institutional framework for water supply at both the State program level and the small water system level,** by promoting legislation to increase State program resources and by promoting restructuring of small systems to ensure their viability.

2. **Build technical and managerial capabilities for SDWA implementation** by identifying and promoting appropriate technological solutions and by developing training coalitions for small system operators, local health officials, and others.

3. **Change public attitudes** by educating and garnering the support of a public that views drinking water as a valuable commodity, one in which it is willing to invest its resources.

The common element among these initiatives is that each seeks to achieve its objectives through the coordinated efforts of external groups and associations.

The Mobilization effort serves as a coordinating umbrella for a variety of initiatives. The common element among these initiatives is that each seeks to achieve its objectives through the coordinated efforts of external groups and associations -- with the coordination provided by EPA and State drinking water programs. Beyond this common element, the actual substance of the various initiatives is different, ranging from increasing State program resources to identifying simple, low-cost technology for small systems.

Six initiatives have been identified and developed by EPA to accomplish the objectives of the Mobilization Program:

- **State Capacity Initiative** focuses on State executive and legislative leaders to gain their support for increased resources for State drinking water programs.

- **Institutional Support Initiative** aims to ensure that small systems (those serving fewer than 3,300 people) are capable of sustained and consistent compliance with federal and State drinking water regulations.

- **Local Health Officials Initiative** seeks the active support of town and county health officials to ensure that all citizens -- including those with private household wells -- enjoy the benefits of safe drinking water.

- **Technology and Training Support Initiative** focuses on the engineering and technical community to ensure identification and use of appropriate low-cost technology for small systems and development and delivery of needed training.

- **Non-Transient Non-Community Systems Initiative** aims to develop awareness of SDWA regulations and facilitate compliance among these systems.
- **Public Education Initiative** seeks to build an understanding by the general public and local officials of the importance of safe drinking water as a valuable resource in which we must be willing to invest.

Mobilization blueprint for Region One: How to use this report

Drinking water officials should use this blueprint as a "menu" for creating balanced and comprehensive Mobilization Programs throughout Region I. As in designing a balanced diet, state programs should be sure to select at least one option from each of the six initiatives.

Just as each State's drinking water program varies, so will its needs, priorities, and resources for mobilization efforts. This report is a blueprint for each State in Region I to use in designing its own Mobilization Program. In addition, the Regional EPA Water Supply Section can use the report as a guide in encouraging and facilitating the States' chosen efforts.

The blueprint is structured in four sections. The first concentrates on the "primacy crisis" posed by the SDWA amendments, the critical need of State drinking water programs for the increased resources needed to retain primacy. Because it is likely that appropriations from a State's general fund will not be sufficient to adequately support its drinking water programs, alternative funding mechanisms (AFMs) must be explored and instituted to supplement general fund resources. The advantages and disadvantages of several AFMs are discussed along with specific steps that a State can take to determine which would be most appropriate for its needs.

The second section of the blueprint focuses on the key initiatives that States can take to facilitate and ensure compliance with the SDWA amendments, with a particular concentration on the needs of small systems. Programs range from low-cost technical assistance efforts such as Adopt-A-System programs to more resource-intensive efforts to strengthen permitting regulations and improve system viability.

The blueprint's third section is an 18-month action plan for Region I, both EPA's Water Supply Section and State drinking water programs. The specific actions highlighted in the plan by no means exhaust the options available to drinking water program officials; in fact, they are just the beginning. All parties should use the action plan as a springboard for future Mobilization initiatives.

A resource directory of drinking water organizations and officials mentioned in the report is included in the final section.

Drinking water officials should use this blueprint as a "menu" for creating balanced and comprehensive Mobilization Programs throughout Region I. As in designing a balanced diet, State programs should be sure to select at least one option from each of the six initiatives. Within each initiative there is tremendous variety, allowing for the creation of a Mobilization Program tailored to individual needs, priorities, and resources.

Primacy crisis: The high cost of protecting public health

While these regulations are a boon for public health protection, their implementation and enforcement threaten to bust state drinking water programs.

Passage of the 1986 SDWA amendments marked the dawn of a new era in the protection of America's drinking water. The amendments greatly increase the scope and stringency of the national drinking water regulations, placing considerable emphasis on long-term health effects. In fact, the standards for regulated contaminants are set at very low levels to ensure a lifetime of protection against both acute and chronic health effects.

While these regulations are a boon for public health protection, their implementation and enforcement threaten to bust State drinking water programs. A joint report by the Association of State Drinking Water Administrators (ASDWA) and EPA estimated that States need an additional $34 million per year to implement the current requirements. In addition, implementation of the 1986 amendments will cost the States $184 million in one-time, upfront costs through 1992 and will lead to an increase of $152 million in annual costs per year after 1992.[1] Dramatic increases in federal subsidies are highly unlikely; therefore, States must begin immediately to build support to substantially increase their drinking water program budgets.

The case for retaining primacy

Without additional resources for increased program costs, States could lose primary enforcement authority or "primacy." The consequences of losing primacy would be dire -- increased costs to water systems and consumers and the loss of State control in implementation and enforcement of drinking water regulations.

When it passed the SDWA in 1974, Congress realized that States were in a better position than EPA to implement and enforce drinking water regulations and to mediate and accommodate certain situations or conditions that might occur. Therefore, it provided for States to retain primary enforcement of the regulations. To assume and retain primacy, a State must not only adopt drinking water regulations that are at least as stringent as the federal requirements but also must be able to administer and enforce these regulations.

EPA's stated emphasis is on enforcement against those who violate federal regulations. The 1986 amendments gave EPA increased enforcement authority including the ability to levy immediate fines and penalties of up to $25,000 per day. On the other hand, the State approach to drinking water regulations is more concerned with protecting public health by preventing violations before they occur.

Primacy involves two basic issues: money and control. Retaining primacy is expensive: States must have sufficient staff to monitor and enforce SDWA regulations. Yet a recent study by the Virginia Department of Health found that "while increased State resources would be needed to retain primacy, the final cost to the waterworks owner (and inevitably the consumer) would increase if primacy were returned to the EPA."[2]

> *"States want to keep primacy because EPA does not have the resources to administer programs sensitively and will use automatic penalties and enforcement. Another dimension is that states have had many dimensions of programs, for example review of plans and specifications in drinking water plants. EPA has no authority for these programs."*
> Mike Cook, director of EPA's Office of Drinking Water

By relinquishing primacy to the EPA, a State would lose the ability to address its own problems. Loss of primacy would mean the loss of a State's control and discretion regarding the application of certain portions of the federal regulations to the State's water systems. For example, the Surface Water Treatment Rule (SWTR) gives primacy States considerable discretion in addressing issues such as which sources are surface-influenced and evaluation of treatment plant performance. If a State loses primacy, its water systems would be expected to comply with the EPA's strict literal interpretation of the SWTR with no discretion.[3]

Small systems would be especially hard hit by a loss of primacy. These systems, which face the most difficulty maintaining compliance with the new regulations, would lose the ability to work through their own special problems with State agency staff. In addition, EPA does not have the resources for the technical assistance programs so sorely needed by small systems. As a result, there would be an increase in the risk of waterborne disease outbreaks, with public health in rural areas facing the greatest threat.

> *"Even if they wanted to, the federal government cannot worry about specific cases; they must use a broad brush to apply the regulations across the board. A state run program, on the other hand, can take full advantage of the flexibility built into the federal regulations in order to address local issues."*
> Allen Hammer, VA Department of Health

Immediate need for additional resources

Given the increased scope and stringency of the SDWA amendments, the cost of safe, dependable water will rise, in some cases, dramatically. Water system operating, monitoring, and maintenance costs will increase as will monitoring, enforcement, and reporting costs of State drinking water programs. Additional resources will be needed to cover the program costs necessary for a State program to retain primacy. In addition to increased funds needed to administer their drinking water programs, many States are wrestling with the question of how to provide financial assistance to small systems.

Ultimately, these increased costs will be borne by water consumers. The size of increases in household water bills will vary, depending on the system's customer base and the type of treatment needed. Not all water systems will need to construct new facilities to comply with the new regulations. Yet estimates of the increased resources needed for State programs to maintain primacy equal to double the current program budgets are not uncommon.

Most State drinking water programs receive the bulk of their funding through annual appropriations from the General Fund. However, as pressure for the use of general fund revenue for other purposes mounts (including competing environmental and public health programs), States may need to investigate and secure alternative funding mechanisms (AFMs) to provide additional resources specifically designated and distributed for the purpose of retaining primacy. Each State must investigate the range of available options and determine the mixture of funding mechanisms that is feasible and best serves its needs.

Examples of AFMs include fees, dedicated taxes, and fines and penalties for program administration. Bond proceeds can be used in State revolving funds to assist water utilities in financing infrastructure costs.

Building coalitions: establishing a drinking water advisory committee

State drinking water programs must harness the energy and resources of drinking water's broad-based constituencies.

Given New England's current fiscal crunch and economic downturn, State programs must work hard to develop broad-based and strong support for new revenues, most of which will require legislative approval. Not only must industry and consumers be educated about the higher costs associated with providing drinking water that meets standards, but they also must be convinced to support the increased revenues needed to meet these costs.

State drinking water programs can not and should not undertake these efforts alone – they must harness the energy and resources of drinking water's broad-based constituencies.

The most effective way for State programs to build the coalitions necessary to generate support for increased resources for drinking water programs is to form an advisory committee or task force. In many ways, the advisory committee is a microcosm of the State's entire Mobilization effort. Members of this working group should represent a wide range of organizations affected by the federal regulations: statewide water industry associations, water system owners, local governments, business and civic organizations.

State drinking water programs must be willing to commit staff resources to organize, motivate, and administer the committees' efforts.

With such a wide range of interests and constituencies, differences among committee members are bound to surface. However, all parties must make the commitment to begin the process with clean slates, leaving behind past difficulties, and to work together in a spirit of cooperation and partnership. An excellent example of an effective advisory committee is Pennsylvania's Small Water System Committee, formed in 1988 as an interagency small systems forum and network. In addition to assisting in the passage of legislation affecting water systems, the Committee fosters constructive working relationships among various agencies concerned with safe drinking water. A list of Committee members and a sample agenda from a recent meeting can be found in Appendix A.

State drinking water programs must be willing to commit staff resources to organize, motivate, and administer the committees' efforts. A volunteer committee's success and effectiveness is largely determined by the level of staff resources available to administer and implement its programs and recommendations. The committee's staff member should undertake tasks such as developing briefing materials for committee members, devising meeting agendas, and conducting appropriate follow-up activities to ensure the smooth and efficient operation of the committee.

The goal of an advisory committee is to build consensus among interested parties for increased drinking water program resources and to turn this support into reality. State program staff should follow the steps outlined below to form a committee and ensure the realization of this goal:

- Identify organizations and contact appropriate representatives by an initial telephone conversation to determine interest in becoming a committee member;
- Send letter to interested members, thanking them for agreeing to participate and outlining goals of committee. Include a list of other preliminary committee members.
- Hold initial organizational meeting to determine action plan for committee's efforts, including administrative issues such as committee structure;
- Organize regular advisory committee meetings -- develop agenda, organize speakers and presentations, record and distribute meeting minutes, conduct follow-up activities as needed.

In addition to developing a strategy for building consensus for increased drinking water program resources and determining what combination of General Fund and AFM revenues are most appropriate to the program's needs, the advisory committee can take specific actions to voice its support for the State program's efforts:

- Organizations can go on public record as supporting State primacy by passing resolutions, writing letters to legislators and other industry opinion makers, and speaking before interested groups.
- In addition, committee members can urge the State legislature to take the actions necessary to ensure that proper resources are authorized to retain primacy and to support an AFM specifically dedicated to drinking water programs.
- Committee members should mobilize their own members and reach out to other constituencies to generate support for an AFM to meet the increased needs of the drinking water program.

Members of a drinking water advisory committee should represent a broad range of constituencies, such as:

Cooperative Extension Services
Rural Community Assistance Programs
New England Water Works Association
State Water Works Association
Northeast Rural Water Association
Conservation Commissions
New England Manufactured Housing Association
State Association of Health Boards/Officials
Public Utilities Commission
US EPA
Dept. of Environmental Protection
Dept. of Public Health
Large utilities
Municipalities
State Municipal Association
League of Women Voters
Audubon Society

Alternative Funding Mechanisms (AFMs):

In addition to building consensus for increased program revenues, a drinking water advisory committee must develop and recommend a package of funding mechanisms that will best serve the primacy agency's needs. As mentioned earlier, it is likely that a mixture of General Fund and AFM revenues will be the preferred funding alternative.

In addition to building consensus for increased program revenues, a drinking water advisory committee must develop and recommend a package of funding mechanisms that will best serve the primacy agency's needs.

In devising the best revenue package, the advisory committee must not only consider the various types of funding mechanisms but also have some means by which to measure the effectiveness and feasibility of these different revenue sources. Appendix B includes a discussion of three AFMs (service fees, user fees, and fines and penalties) and presents eight criteria that an advisory committee can use to measure a source's effectiveness.

Virginia's Drinking Water Protection Fund

Because of increased requirements in its drinking water program, the Virginia Department of Health's Division of Water Supply Engineering (DWSE) realized that it could not effectively continue to operate its program without a commensurate increase in resources. By building coalitions with associations and organizations concerned about drinking water, they were able to convince the administration and legislature of their need.

The DWSE has received a one year budget increase of nearly $600,000 which provides an additional 19 FTEs, 17 of which are designated to be technical and two clerical positions. This 40% increase in staff is expected to strengthen the State's capacity especially in the areas of enforcement and technical assistance for non-transient, non-community systems and small community water systems.

Contractor assistance available to States

Because it considers State Capacity as the most important initiative of its Mobilization strategy, EPA's Office of Drinking Water is making available to State programs the services of a variety of contractors and national associations. These contractors and organizations can assist States in their efforts to implement AFMs to meet their programs' increasing needs.

Securing the services of a contractor is contingent upon a State program's willingness to devote some of its resources to the funding effort as part of an overall Mobilization program.

Contractors can help a State program develop an AFM proposal and can ensure that the proposal is presented to key decisionmakers. For example, the National Conference of State Legislatures can share its expertise in working with both the legislative and executive branches. Another example of contractor assistance is in the development of an AFM proposal for a State drinking water program; an EPA-retained contractor can provide the following assistance:

- project program revenue needs associated with the SDWA requirements;
- develop a clear and effective visual presentation of the need for an AFM (for presentation to industry and/or legislative groups);
- use flexible computer models to develop revenue projections for a number of fee alternatives; and
- calculate the annual cost of different fee alternatives to individual systems and consumers.

By drawing on its research, models, and program management expertise, a contractor can assist States in proposing an AFM that is fair, politically acceptable, and successful in meeting the needs of the primacy agency.

The contractor continues to build a body of research about the fee mechanisms considered or implemented in other States, drawing on the experiences of both successful and unsuccessful proposals. It has developed computer spreadsheet models that can be readily adapted to meet state-specific situations -- predicting program revenue needs, evaluating and setting fees, and accurately predicting revenue collections.

By drawing on its research, models, and program management expertise, a contractor can assist States in proposing an AFM that is fair, politically acceptable, and successful in meeting the needs of the primacy agency.

States that are interested in receiving contractor assistance with their State Capacity initiatives should contact their regional EPA Mobilization Coordinator, listed in the resource directory in Section IV.

Designing a comprehensive Mobilization Program

Ideally, each State's Mobilization Program would include aggressive programs in each of the six initiative areas: state capacity, institutional support, local health officials, technology and training, non-transient non-community systems, and public education. But financial and staff restraints limit the development and implementation of such comprehensive programs. Indeed, all six of the Mobilization Initiatives may not be desireable or feasible for a particular State drinking water program. It is important to remember that the purpose of any Mobilization Program is that the State maximizes the effectiveness of its external relationships, drawing on the expertise and assistance of many different organizations.

The purpose of any Mobilization Program is that the State maximizes the effectiveness of its external relationships, drawing on the expertise and assistance of many different organizations.

Not all Mobilization programs and efforts require large financial resources; with strong coalitions and support from other organizations, States can go a long way towards compliance with the new SDWA requirements.

This section of the blueprint details each of the six Mobilization initiative areas and the program alternatives within each that States can undertake. Successful initiatives are highlighted in an effort to spark the imagination of primacy agency staff in other States and to serve as a catalyst for the development of similar programs in Region I.

Establishing an advisory committee

The absolute minimum Mobilization component of any State drinking water program should be an advisory committee which includes individuals whose day-to-day responsibilities involve direct contact with water systems at the local level.

The absolute minimum Mobilization component of any State drinking water program should be an advisory committee which includes individuals whose day-to-day responsibilities involve direct contact with water systems at the local level.

An advisory committee can be a valuable resource for program development, providing guidance in numerous areas, pooling the resources and expertise of diverse constituents, and serving as a clearinghouse for information and assistance efforts. Specifically, an advisory committee can provide the following assistance to a primacy agency:

- assess a State program's needs and resources;
- evaluate options with an eye to resources and ability to meet special needs within the State;
- help determine which options are realistic and feasible;
- build support for increased resources and program activities among the public, industry representatives, and State and local government.
- help establish a Technical Assistance network among drinking water organizations and agencies;
- establish mechanisms for measuring and evaluating programs;
- provide feedback on State programs from systems and users.

The time spent in organizing and building a committee and the effort expended to maintain these coalitions is one of the greatest investments a drinking water program can make.

The time spent in organizing and building a committee and the effort expended to maintain these coalitions is one of the greatest investments a drinking water program can make. The commitment of drinking water program staff resources is crucial to the success of this effort. All of the Mobilization efforts outlined below can benefit from input from a drinking water advisory committee.

State Capacity

As discussed in the first section of this report, nearly every State drinking water program has an immediate need for increased funding; consequently, increasing State program capacity is ODW's top Mobilization priority.

Most of the New England States already have expressed an interest in increasing their State capacity to implement the SDWA amendments and retain primacy. New Hampshire's Water Supply Engineering Bureau already has gained a 50 percent increase in its drinking water program staff through its Permit to Operate fee program.

Institutional Support

Because small systems account for the vast majority of MCL and M/R violations and because the SDWA establishes, as its primary objective, the elimination of these violations, State drinking water programs should make special efforts to ensure small system viability.

The "viability" of a system refers to its ability to consistently meet the requirements of the SDWA amendments. "Non-viable" refers to a system with technical, financial, or managerial weaknesses that may render it incapable of complying with drinking water regulations.

Small systems account for 93 percent of MCL violations and 94 percent of M/R violations.[4] The barriers that small systems face in complying with the regulations include:

Because small systems account for the vast majority of MCL and M/R violations and because the SDWA establishes, as its primary objective, the elimination of these violations, State drinking water programs should make special efforts to ensure small system viability.

- lack of financial capacity, including access to capital and other financing mechanisms needed to update aging and/or inadequate infrastructure;
- lack of technical knowledge of State and federal requirements and how to meet them;
- lack of information on sources of assistance;
- lack of economies of scale, leading to a high per-customer cost of operation;
- lack of affordable technologies to comply with existing and new regulations.

It is important to stress at the outset that no one program or regulation will resolve the compliance challenges faced by small public water systems. An integrated and comprehensive set of policies -- one which provides not only sanctions but also incentives -- is necessary if a State program is to continue to guarantee a continuous and adequate supply of safe drinking water for all its residents.

State programs can motivate and assist small communities and systems to meet the new standards through a variety of activities including: training, education, information, management, and financial assistance. Drinking water programs and their advisory committees should consider the following initiatives in designing their Institutional Support efforts:

1. **Develop and articulate a policy which recognizes the special challenges faced by small systems.**

In a recent study of existing small systems, EPA recommends that States develop a policy statement acknowledging the extra needs of small systems.[5] Although this is a position that a drinking water agency, with the input of its advisory committee, must develop itself in order to maintain consistency with its remaining policies, a sample statement might read:

> Recognizing the special needs and challenges faced by small water systems in meeting the regulations of the Safe Drinking Water Act, The Agency's policies will focus on the prevention of small system failure in order to guarantee the continuous provision of safe drinking water to all people of State. The Agency will implement procedures and programs to prevent the proliferation of new small, underfinanced systems and to assist existing systems maintain compliance.

Given the tremendous resources that will be needed by small systems to comply with the 1986 SDWA amendments, it is imperative that State programs consider systematic reviews of the financial, technical, and managerial strength of proposed new public water systems.

2. **Strengthen the approval process for new public water systems to ensure that proposed systems can meet the operational, financial, and managerial standards necessary for system viability and compliance with SDWA requirements.**

States should investigate efforts to ensure the viability of new, small water systems. The permitting process provides an ideal mechanism for the review of a potential system's viability and capacity to meet the SDWA regulations. If a State program does not have a procedure to review or certify systems, it should consider implementing one.

A State that has a permit approval process should consider expanding and strengthening its procedures to encourage alternatives to the creation of new systems when feasible and to require review of a proposed system's financial, technical, and operational capacity.

A recent review of five State drinking water programs revealed that all either review or have plans to review proposed small water systems through their permitting processes and use these requirements to place the burden of proof of viability on the proposed systems.[6] In effect, these States have adopted the principle that water systems are similar to other public services (like electric or natural gas companies or hospitals) that must demonstrate a need before creating new infrastructure.

In addition, a State program should consider alternatives to the creation of new systems. For example, interconnection to or satellite management by an existing viable system (when feasible) could be used to decrease the total number of new systems created, thereby reducing the likelihood that such a system would become non-compliant.

Although definitions of feasibility vary, several States encourage or require proposed systems to interconnect with existing systems when feasible. Connecticut's small system permitting process, one of the most rigorous in the country, is intended to "restrict the proliferation of new small water systems."[7] State drinking water regulations require a proposed system to connect with an existing system if feasible. If interconnection is not feasible and if other operational and managerial alternatives have been exhausted, then the system must prove that it has the technical and financial capacity to remain in compliance. Connecticut's permit approval process is more fully described in Appendix C.

An additional benefit of limiting or reducing the number of small systems is the decreased staff resources needed to track system compliance. This is particularly important given the budgetary restraints of most State programs.

Given the tremendous resources that will be needed by small systems to comply with the 1986 SDWA amendments, it is imperative that State programs consider systematic reviews of the financial, technical, and managerial strength of proposed new public water systems. Appendix D contains a discussion of the role of the permitting process as a mechanism for system review, including the criteria available to determine viability.

3. Increase the State's ability to assist systems in their compliance efforts through the encouragement of restructuring options such as satellite management, contracting arrangements, or mergers and acquisitions of small systems.

Preventing the establishment of new potentially non-viable water systems is only a piece of the overall solution to system viability. Implementation of the SDWA amendments will exacerbate many of the problems now facing small systems, particularly lack of technical knowledge and financial capacity and diseconomies of scale which lead to higher per-unit costs. As a result, more systems will face the risk of becoming noncompliant and threatening public health.

Small water systems can solve some of the diseconomies of scale that they face by utilizing restructuring options such as operations and management contracting, cooperatives, and mergers and acquisitions.

A recently-published EPA study focuses on restructuring initiatives that States can implement to help systems, particularly small systems, overcome barriers to complying with SDWA regulations.[8]

Appendix G contains a discussion of three restructuring options that can be used to address the problems of diseconomies of scale: contract operations and management (O&M), cooperatives, and mergers and acquisitions. The advantages and disadvantages of each option are explored along with incentives that State programs can implement to encourage systems to enter into these restructuring arrangements.

4. Build coalitions with organizations representing small systems, particularly mobile home park associations.

Although mobile home parks (MHPs) only make up about 3 percent of all small systems in New England, they account for 12 percent of the total number of small system violations.

Mobile home parks and homeowner associations are a key focus of Mobilization since they account for approximately 40 percent of small systems nationwide. These systems are often neglected by their owners because water supply is not their principal business interest and because they lack the technical and managerial skills needed to effectively operate a water system. In fact, owners often do not even realize that they are operating public water systems.

Recognizing that New England MHPs have not been targeted for education, training, and technical assistance by drinking water programs, EPA Region I has begun to work with the New England Manufactured Housing Association (NEMHA) to help MHP owners and operators understand and maintain compliance with SDWA requirements. For example, at the NEMHA annual meeting in October 1990, there will be an EPA-sponsored Safe Drinking Water exhibit. Staff members will be available to answer questions and distribute materials on drinking water regulations and available resources. An article on SDWA requirements will be published in NEMHA's quarterly newsletter.

State drinking water programs can continue these efforts with their own statewide MHP organizations. Maine's drinking water program has developed an excellent relationship with the Maine Manufactured Housing Board (MHB), the State regulatory agency for MHPs. Written into its licensing agreements, the MHB requires parks to comply with drinking water regulations. If a park system is in violation of the requirements, the MHB can direct them to comply or face fines or, only in an extreme case, the suspension of their license to operate. If a system has had several violations, the MHB will encourage the park owner to seek training or technical assistance.

Pennsylvania Mobile Home Park Cooperative

In a project funded by EPA and administered by the AWWA, a cooperative was formed of ten mobile home parks in Berks County, Pennsylvania. This pilot project was designed to enhance compliance of these small water systems with safe drinking water regulations.

Cooperative members met monthly to learn about regulatory requirements and discuss various water supply topics. A circuit rider program was initiated to provide basic water supply operational services. Efforts to establish a cooperative arrangement for the procurement of water treatment and O&M services were not successful, possibly because of an absence of motivational factors and financial incentives.

Successes of the project include the certification of two MHP system operators. The Pennsylvania Manufactured Housing Association is working with the State to schedule a training session on certification for 25-30 participants.

Local Health Officials

Local health officials are in an excellent position to help ensure safe drinking water within their communities, particularly for private well owners. In fact, many already are involved in some aspect of drinking water protection. Activities range from technical assistance for household well owners to inspections of public water systems.

Local health officials are in an excellent position to help ensure safe drinking water within their communities, particularly for private well owners.

Local health officials can include local boards of health, county sanitarians, and other public health professionals. Each New England state organizes its health departments in a different way: For example, Rhode Island has a State health department but no local health departments, whereas Massachusetts local health departments are linked to its town governments -- over 350 of them.

State drinking water programs should consider the following initiatives in designing a Mobilization Program component for Local Health Officials:

1. **Initiate outreach programs to provide local health officials with a greater awareness of the new requirements and increased understanding of the critical role they can play in the successful implementation of the SDWA.**

Outreach efforts can include one-to-one meetings with statewide health organizations to establish cooperative working relationships. For example, local health officials can help State programs get drinking water material to private well owners by distributing informational pamphlets at the time of well inspections.

Association newsletters are excellent vehicles for informing health officials of contaminant health effects, applicable regulatory requirements, treatment technology, and source protection with special emphasis on private wells. A sample article, published in the National Environmental Health Association's newsletter, can be found in Appendix L.

State programs can contact Beth Hall, the EPA leader for the Local Health Officials initiative, who has numerous articles available and can "custom design" others for publication in specific newsletters. See Appendix M for more information.

2. **Encourage and help local health officials in their efforts to assist household well owners in providing information on safe drinking water, providing advice about household treatment devices, and educating well owners and the community about groundwater protection.**

Private wells serving individual households are not subject to the federal drinking water requirements, and in most cases, regulation occurs only at the local level. Local health officials can assist private well owners by answering questions and conducting educational programs to address the health risks associated with drinking water contaminants. These professionals can also provide technical assistance to household well owners with respect to water sampling and analysis, including the interpretation of laboratory results.

3. **Provide public information materials on the SDWA regulations to local health officials to use in educating public water system consumers about the importance of safe drinking water.**

Local health officials can play a critical role in their communities by answering consumers' questions about the importance and impact of the SDWA regulations and the public health significance of drinking water contamination. Local health officials could help generate support, among both the general public and state legislators, for increased drinking water program resources. State drinking water programs should work with local health officials and their professional organizations to distribute informational pamphlets and brochures.

Technology and Training

Because most small systems do not have the technical capabilities to implement the extensive monitoring and treatment technologies required by the 1986 amendments, training and technical assistance (TA) programs will be needed for water system operators and managers. A recent study in Pennsylvania showed that 90 percent of small systems can comply with the new stringent performance requirements if they have the technical and managerial expertise needed to optimize operational practices and install monitoring devices.

A recent study in Pennsylvania showed that 90 percent of small systems can comply with the new stringent performance requirements if they have the technical and managerial expertise needed to optimize operational practices and install monitoring devices.

1. **At a minimum, States should develop a resource directory of technical and financial assistance and training programs available throughout the State.**

An advisory committee could assist with the identification of resources, including the development of a questionnaire to State, regional, and federal assistance programs. Massachusetts' drinking water program is conducting such a survey as part of a planned Technical Assistance Network, using the questionnaire shown in Appendix N.

A resource directory can range from a simple list of phone numbers of organizations providing technical assistance to a more comprehensive and elaborate publication listing detailing information about available programs. An excellent example of a resource directory is Pennsylvania's guide, A Water Utility's Guide to Financial and Technical Assistance Programs, shown in Appendix O.

In addition to a resource directory, State programs should consider the following initiatives in designing their Technology and Training Support efforts:

2. **Drawing on the coalition building efforts with the drinking water advisory committee, develop a comprehensive training program.**

Studies demonstrate that personal contact or hands-on assistance, rather than dissemination of information through the mail, is most effective in helping small systems achieve compliance.

The Office of Drinking Water has developed a National Training Strategy that identifies and targets the highest priority training needs of State drinking water program staff, system operators, and local health officials. Workshops or seminars on sampling techniques or reporting requirements can be productive if system operators are able to attend. However, small system operators often work part-time or live far from the workshop location; as a result, those systems that most need assistance are unable to get it.

Studies demonstrate that personal contact or hands-on assistance, rather than dissemination of information through the mail, is most effective in helping small systems achieve compliance. Two New England states, Maine and Rhode Island, provide one-to-one assistance to small systems.

Maine's drinking water program provides a yearly grant to the Maine Rural Water Association (MRWA) to provide technical assistance to systems. If a system is in violation, the State automatically alerts the MRWA at the same time that it notifies the system operator. As a result, the MRWA circuit rider contacts the system with an offer of assistance to help correct the violation. The MRWA's non-regulatory status serves as a buffer between the system and the primacy agency; operators are often more forthcoming about their difficulties with the circuit riders because they do not fear enforcement measures or penalties. Vermont's primacy agency has established a similar relationship with the Northeast Rural Water Association.

In Rhode Island state sanitarians collect nearly all required water samples, visiting every small water system at least quarterly. Consequently, sanitarians are familiar with each system and manager and are available for consultation as needed. Rhode Island Department of Health officials have found this to be "an effective form of outreach that has displaced the need for a formal technical assistance program for small water systems."[9]

3. **Establish a technical assistance network or program, such as an Adopt-A-System program.**

"Adopt-A-System" programs, which link small systems with larger utilities, are relatively low-cost initiatives that States can encourage to assist small systems. California's Alameda County Water District (ACWD), which recently founded such a program, compiled a list of its services and areas of expertise available to small systems within a 50- to 100-mile radius. Circuit riders from the Rural Water Association and Rural Community Assistance Corporation distribute the list and program information. Small systems can contact engineers and technicians directly through this information clearinghouse on topics such as backflow devices, sampling and testing, corrosion control and leak detection. More information on the ACWD program can be found in Appendix P.

The Massachusetts Department of Environmental Protection (DEP) plans to launch a similar pilot program in its western region. DEP is considering a more formal and structured program than the one in California. Rather than simply publishing a directory of the "parent" system's personnel and their area of expertise, DEP envisions the development of a closer relationship between a utility and several (perhaps 5 or 6) small systems.

An Adopt-A-System program can benefit the parent system as well as the small systems receiving assistance:

- Corporate goodwill and public relations are boosted by participation in such an initiative. Articles in local newspapers featuring the parent system providing assistance to small systems not only illustrates the company's goodwill and community spirit but also can serve as a mechanism for educating the public to the importance of safe drinking water.

- Cooperative purchasing arrangements can be financially beneficial to all parties. Because large systems have the ability to purchase in bulk at a lower per unit cost, they could in turn sell some of their materials to the smaller systems at a price higher than their cost (so they make a profit) and yet still lower than the price the small system would be paying if it purchased the item separately (so the small system saves money).

- A parent system could contract some of its services to small systems on a fee basis. In the instance where a small system may need assistance that is too costly or time-consuming for the parent system to donate, the parties could develop a contractual relationship for the provision of the services. The benefits of such an arrangement are twofold: the small system has its work performed by a known and trusted contractor, and the parent system charges a fee for its services.

Before implementing an Adopt-A-System program, a State program's legal department should review plans to guard against possible liability problems. Although ACWD has not experienced any such problems, a primacy agency might consider drafting a standard agreement (such as a

Memorandum of Agreement), including an indemnification clause, to be used by participants in its program. The more an agency facilitates participation in such a program, the more successful the initiative is likely to be.

PA's Technical Assistance Program for Small Systems

Pennsylvania's Technical Assistance Program for Small Systems (TAPSS) was established in 1989 to aid small water systems comply with new SDWA requirements. Another goal was to achieve a corresponding reduction in violations and improve operation and maintenance practices in three specific areas of operation: filtration, disinfection, and corrosion control. Technical assistance is provided through contracts with private consultants experiences in water supply treatment and systems operations.

Since 1989 the Division of Water Supplies has directed $750,000 in State and federal monies to the on-site training of 360 small water systems. Walt Harner, of the State's Department of Environmental Resources, credits TAPSS's success to the program's efforts to remove the barriers to training, "to take training to the operators' door step and work one-on-one with them."

The largest barrier to compliance that owners and operators of NTNCWS face may be that they are not even aware of the SDWA regulations or that they must comply with them.

Non-Transient Non-Community Systems

Non-transient non-community water systems (NTNCWS), those serving the same 25 or more people for at least six months per year, are to a large extent a newly regulated group of public water systems. Prior to the 1986 SDWA amendments, the regulatory requirements for these systems, usually schools and businesses, were scant. However, since the focus of the new requirements is on protection from the long-term health effects of contaminants, Congress decided that the same type of protection afforded to users of community water systems would be extended to NTNCWS users. Studies have shown that most people consume nearly as much water at school or work as they do at home.

The vast majority, more than 92 percent, of NTNCWS are very small systems serving fewer than 500 people. Consequently, they face the same barriers to compliance discussed in the section on the Institutional Support Initiative -- diseconomies of scale and lack of technical, financial, and managerial resources.

The largest barrier to compliance that owners and operators of NTNCWS face may be that they are not even aware of the SDWA regulations or that they must comply with them. Therefore, States must undertake efforts to increase awareness among NTNCWS of the regulations and to facilitate compliance with them.

The most effective way for States to inform these systems of their responsibilities under the SDWA is through established coalitions and organizations such as State Principals Associations and Chambers of Commerce.

Unlike the general public, which must be educated about safe drinking water, NTNCWS must comply with the regulations. In many instances, compliance with the regulations will include the installation and operation of certain treatment technologies; in fact, about 84 percent of NTNCWS will need to treat. Therefore, outreach efforts should include not only information about the regulatory requirements but also training, technical or financial assistance programs, and other options to facilitate compliance (e.g. certified operator contracting, cooperative purchasing, or merger with a municipal system).

Outreach to NTNCWS should include not only information about the regulatory requirements but also training, technical or financial assistance programs, and other options to facilitate compliance.

State programs should consider the following initiatives in establishing their efforts to assist NTNCWS:

1. **Establish informational outreach efforts for NTNCWS through the numerous vehicles provided by organizations reaching these systems.**

States can get information on drinking water regulatory requirements and options for compliance to NTNCWS using similar mechanisms as the Public Education Initiative described in the following section. The first step in any of these initiatives is contacting an organization whose membership includes significant numbers of NTNCWS to establish a cooperative relationship; all it takes is an initial telephone call. Specific actions might include:

o writing articles to be published in trade journals, association newsletters, or general mailings to members (see Appendix M for a list of generic articles available from EPA);

o giving speeches at membership meetings or conferences of associations whose membership includes significant numbers of NTNCWS;

o setting up exhibits and distributing public information materials at trade shows or conferences.

2. **Encourage capable NTNCWSs, such as large factories or school districts, to establish training or technical assistance programs for their personnel or for smaller systems.**

A "Big Brother" assistance program or network for NTNCWSs can be modelled on the Adopt-A-System programs used by public water systems. Such efforts are being considered in other parts of the country. For example, the Chemical Manufacturers Association, the Grocery

Manufacturers of America, and the National School Boards Association are considering establishment of a "help network" of industry professionals to assist schools that have their own water supplies. During the past year, EPA worked with DuPont on the company's efforts to offer a comprehensive 2 day SDWA training program for their facility personnel.

Public Education

Public confidence, understanding, and support of safe drinking water regulations and the increased costs needed to ensure compliance is critical to the success of any drinking water program. Indeed, it could be argued that, without the support of a well-informed public, neither regulators nor public water systems will be able to accomplish the mission of the 1986 SDWA amendments.

State drinking water programs should work with their advisory committees to informs citizens, especially those in small communities, about the SDWA requirements, the regulatory process, and the need to support higher water rates or bond issuances to pay for this increased protection. "Public" should be defined broadly to include not only private citizens but also local public officials, business groups, civic organizations, and teachers.

Public confidence, understanding, and support of safe drinking water regulations and the increased costs needed to ensure compliance is critical to the success of any drinking water program.

States should take advantage of every available opportunity to educate the public. Mechanisms for outreach are numerous and need not consume a large portion of a drinking water program's budget. Programs should pursue available free and low-cost media such as press releases, radio talk shows, public service announcements, and newsletters. Below is a list of specific opportunities and resources for public education efforts; it is by no means exhaustive or comprehensive.

- The Safe Drinking Water Hotline is a toll-free, nationwide information service for public water systems, local health officials, and the general public. Operators can answer a wide range of drinking water questions; for example, How do I know if my town water is safe? Do I need a filter for my kitchen tap? How do I get my water tested?

- Program staff and advisory committee members can make speeches and slide shows to civic and business organizations and other interested parties about the importance of safe drinking water.

- Public opinion leaders (e.g. local elected officials or industry leaders) should be encouraged to write op-ed pieces supporting increased resources for drinking water programs for publication in local newspapers.

- Articles on SDWA can be published in agency or association newsletters to keep staff and members informed about regulatory requirements. EPA has published several generic newsletter articles that are available for distribution to any State programs. See Appendix M for a list of article titles.

- Booths or exhibits at community events such as county fairs can be used to disseminate informational materials such as pamphlets or brochures. A travelling exhibit is available from the Regional EPA Office.

- Alaska and New Hampshire are examples of states that have developed fact sheets which deliver information on safe drinking water in simple, non-technical language. See Appendix Q for samples.

- The Office of Drinking Water has publications ranging from brochures to one-page fact sheets on numerous topics related to safe drinking water. See Appendix M for a list of titles and contact information for ordering.

With the services of an EPA contractor, a pilot project is being launched in Region I to build an effective and comprehensive public education program. Efforts will include the building of coalitions with organizations such as AWWA, National Rural Water Association, Cooperative Extension Services, League of Women Voters, and various civic associations.

Mobilization action plan for Region I (9/90 - 3/92)

This action plan includes recommendations for both EPA's Water Supply Section and State drinking water programs in Region I.

1. Provide State programs with regular updates on Mobilization Program activities in other States, including examples of both successful and unsuccessful efforts and individual contacts.

2. Encourage and assist State primacy agencies to establish advisory committees to develop statewide mobilization strategies, with a principal focus on building consensus on the need for increased revenues for drinking water programs.

3. Provide support as needed to at least three state primacy agencies in their efforts to increase program resources. Facilitate relationship with EPA contractor. Assist in developing a case and strategy for obtaining increased program revenues.

4. Follow-up by EPA State coordinators with State program staff, including Mobilization coordinators, after Small Systems Viability Conference in Scottsdale, AZ in September, sharing information and publications and encouraging contact with other State programs.

5. Brief Regional Administrator and Deputy Regional Administrator quarterly on Mobilization activities and seek their active support and assistance. Specific areas of assistance can include inclusion of Mobilization Program activities in speeches and presentations and commitments to attend and speak at Regional SDWA forums and conferences.

6. Develop talking points on SDWA amendments and Mobilization Program activities for drinking water program staff, Regional Administrator, and Deputy Regional Administrator to include in all speeches or presentations to water industry-related groups.

7. Conduct quarterly meetings of EPA and State Mobilization Coordinators to facilitate sharing of information and resources and to develop regional strategies for reaching and improving compliance with SDWA requirements.

8. Meet with executive director of New England Manufactured Housing Association in preparation for the organization's annual meeting (October 4 - 5 in Portsmouth, NH) and to discuss how NEMHA can take an active role in regional mobilization activities.

9. Contact State manufactured housing associations and regulatory boards to establish cooperative efforts in Mobilization Programs throughout the region. Follow-up activities should include:
   - o Publication of articles on responsibilities of mobile home parks under SDWA regulatory requirements in newsletters of State associations.
   - o Attendance at associations' annual meetings with SDWA exhibit and distribution of SDWA informational materials.

10. Pursue mechanisms to improve mobile home park compliance in at least two states. Possible avenues include establishment of a pilot cooperative similar to that in Pennsylvania and strengthening licensing requirements to include compliance with safe drinking water regulations.

11. Work with at least three states to develop a technical and/or financial assistance resource directory to be distributed to system owners and operators.

12. Continue to provide support, including legislative contractor assistance if needed, to the Massachusetts Department of Environmental Protection in its efforts to develop a strategy to improve small system viability.

13. Work with local health organizations in at least three states (for example, county sanitarians in Massachusetts) to develop and distribute public information materials on SDWA regulations, particularly to private well owners.

14. Work with state primacy agencies and other water industry associations to increase attendence at informational forums and conferences, particularly by small system owners and operators.

15. Co-sponsor conferences such as Connecticut's workshop in September, "Safe Drinking Water: Meeting the Challenge of the 90s." Provide speakers, information, publications, and follow-up assistance as needed.

16. Begin one-to-one meetings with State program staff and organizations representing regulated systems such as State Principal Associations, State chapters of the League of Women Voters, Chambers of Commerce to discuss Mobilization Program activities. For list of organizations to contact, see the EPA "Summary of National Organizations' Activities in support of the Mobilization Strategy" in Appendix R. A list of the state affiliates of these organizations is being prepared by EPA and will be forwarded to the Regional office.

Resource Directory

Below is a list of drinking water officials from the States and organizations mentioned in this report. They are most helpful and willing to share information on their experiences and ideas to assist public water systems reach and maintain compliance with the SDWA regulations.

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Institutional Support Initiative
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Local Health Officials Initiative
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Technology and Training Support Initiative

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Small Systems Technology:
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Non-Transient Non-Community Systems Initiative
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Public Education Initiative
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Rhode Island

June Swallow
Division of Drinking Water Quality
Dept. of Health
75 Davis Street
Providence, RI 02908
(401) 277-6867

Vermont

Winslow Ladue
Division of Environmental Health
Dept. of Health
60 Main Street
Burlington, VT 05401
(802) 863-7230

Program Contacts in Other States

ACWD's Adopt-A-Small-System Program

John Marchand
Alameda County Water District
P.O. Box 5110
43885 South Grimmer Boulevard
Fremont, CA 94537
(415) 659-1970, x522

California's Memorandum of Understanding with PUC

Cliff Sharpe
Office of Drinking Water
Dept. of Health Services
714 P Street, Room 692
Sacramento, CA 95814
(916) 323-1381

Connecticut's financial requirements for system approval

Richard Albani
Dept. of Public Utilities Control
One Central Park Plaza
New Britain, CT 06051
(203) 827-1553

Maryland's bonding and escrow requirements for new systems

Barry O'Brien
Water Supply Program
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Shantini Senanayake
Water Supply Program
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Pennsylvania's small systems program and TAPSS

Steve Schmidt
Division of Water Supplies
Dept. of Environmental Resources
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(717) 787-0122

Washington's financial review process for operating permits

Rick Sieffert
Dept. of Social and Health Service
(206) 753-4299

Assistance Programs and Trade Associations

Rural Communities Assistance Program

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218 Central Street, Box 425
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(508) 297-1376

Maine Rural Water Association
84 Maine Street, Suite A
Brunswick, ME 04011
(207) 729-6569

Northeast Rural Water Association
512 St. George Road
Williston, VT 05495
(802) 878-3276

NJ, CT & RI Rural Water Association
Branford Hill Plaza
One Summit Place, suite 204V
Branford, CT 06405
(203) 483-4645

Maine Manufactured Housing Board
David Preble, executive director
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New England Manufactured Housing Association
Jim Ayotte, executive director
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Endnotes

1. State Costs of Implementing the 1986 Safe Drinking Water Act Amendments, a joint report by the Association of State Drinking Water Administrators and US Environmental Protection Agency, August 1989.

2. "Virginia Addresses the Question of Primacy" in Meeting the Challenge: An Update on ODW's Mobilization Effort, published by the USEPA Office of Drinking Water, May 1990.

3. "The Impact of the Safe Drinking Water Act Amendments of 1986 on the Commonwealth of Virginia," Report of the Department of Health to the Governor and the General Assembly of Virginia, House document no. 30, Richmond, 1990.

4. FRDS 07 and FRDS 19A, FY 1987.

5. Improving the viability of existing small drinking water systems, EPA 570/9-90-004, June 1990.

6. Programs studied were Connecticut, Georgia, Maryland, Washington, and Pennsylvania. Programs in the first four states were compared in "Ensuring the Viability of New, Small Drinking Water Systems -- A Study of State Programs," published by EPA's Office of Drinking Water, April 1989.

7. Final regulations for application procedures and criteria for issuing Certificates of Public Convenience and Necessity for small water companies, Connecticut Department of Public Utility Control, September, 1987.

8. Much of this section is excerpted or summarized from this study, Improving the viability of existing small drinking water systems, EPA 570/9-90-004, June 1990.

9. "Technical Assistance to Small Water Systems" description, written by the Rhode Island Division of Drinking Water Quality and included in the "1990 State Program Resource Compilation" by ASDWA and AWWA.

Appendix A

Pennsylvania Small Water Systems Committee

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Executive Director
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Appendix A

Pennsylvania Small Water Systems Committee

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Pennsylvania Small Water Systems Committee

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Appendix A

Pennsylvania Small Water Systems Committee

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April 24, 199

AGENDA

PENNSYLVANIA SMALL WATER SYSTEMS COMMITTEE

1. Introduction of new attendees 10:
2. Minutes of January 23, 1990 meeting 10:1
3. Progress: extension of TAPSS; mobile home park cooperative 10:1
4. PENNVEST program activities 10:2
5. Public meetings of PA Comprehensive Water Supply Policy Plan 10:3
6. Lessons learned from TAPSS (Jack Ashton, ACMSC) 10:4
7. Future enforcement by DER (Tom Sabatino, DER) 11:0
8. Viability of New and Existing Systems (Steering Committee) 11:2
9. Donation of water meters (Allen & Pizer) 11:3
10. Input of legislative staff 11:5
11. Report of Rate Subcommittee (Allen, Brogan, Stan Brown, Eason) 1:0
    - Status of H.B. 24 and 25
12. Regulation issues: 1:1
    - Status of lead ban, Lead Contamination Control Act, State Plumbing Code
13. Education issues: 1:2
    - Improving resources for operator training
    - Reports from recent conferences and seminars
14. Certification issues: 1:3
    - Committee to improve small system certification (Slatick)
    - Use of national test for small systems operators
15. PUC initiatives (Carol Allen) 1:5
16. Other agency/organization activities for small water systems 2:0
17. Other business 2:1
18. Next meeting - Wednesday, July 18, 1990, same location; items of concern requested for agenda
19. Adjournment 2:

Alternative Funding Mechanisms: advantages and disadvantages

Whatever funding mechanism(s) it selects and works to implement, an advisory committee should aim for a package that provides enough revenue to cover the full cost of the State's drinking water program. A single fee-for-service will not be sufficient to cover a State program's increased costs under the new regulations. Because legislatures are not receptive to programs that return every year with requests for additional funding, a State can best use its resources by aiming high and making a strong case for a comprehensive funding package.

Every government revenue source, whether used for on-going operations or capital projects, whether raised through debt or on a current basis, has eight criteria to measure its effectiveness and efficiency.[1] No funding source will meet all these measures fully, but the more measures addressed in a revenue source, the better it is and more likely it is to be supported and approved.

1. **EQUITY** reflects the fairness of the distribution of the funding burden among individuals. In environmental programs, equity can be approached from two directions -- those who create or contribute to environmental problems should bear the funding burden (the "polluter" pays) or those who benefit from program activities should bear the funding burden (the "beneficiary" pays).

2. **LEGISLATIVE ACCEPTABILITY** reflects the political attractiveness of a financing mechanism. There are unique legislative predispositions in each State that often influence the choice of a financing mechanism. Establishing dedicated funds for drinking water programs may be perceived favorably by the public but not by State legislatures. Designating fees or charges for specific programs creates a direct link between payment and the provision of services -- in this case, the continuous provision of safe drinking water. However, legislatures may resist dedicating revenues because it decreases their flexibility in appropriating funds.

3. **PUBLIC ACCEPTABILITY** reflects the willingness of those subject to a fee or tax to pay or the willingness of the public to make a particular sector pay.

4. **FEASIBILITY** relates to the legal authority to impose a fee or tax as well as to factors that affect the workability of a financing mechanism.

5. **REVENUE POTENTIAL** is measured by the amount of money that can be raised with a particular financing mechanism and whether a mechanism provides a one-time or a continuing source of revenues.

6. **FLEXIBILITY** reflects the ability to use revenues from alternative financing mechanisms as needed for a variety of program activities.

7. **ADMINISTRATIVE REQUIREMENTS** relate to the effort needed to implement an alternative financing mechanism, including start-up costs and on-going collection and management of funds.

8. **IMPACTS** relate to whether a financing mechanism creates incentives for desirable (or possibly undesirable) behavior and whether it places an undue financial burden on industry or general taxpayers.

The principal AFMs discussed for drinking water programs are fees, dedicated taxes or user charges, and fines and penalties. A recent survey conducted by the National Governor's Association of AFM use in State environmental programs reported that 63 percent of the 431 active AFM programs were fees.[2] The survey also found that fines and penalties and taxes accounted for 16 percent and 9 percent of the total number of AFM programs, respectively. Of the $3 billion in AFM revenues collected during the period studied, 1988-89, 15 percent came from taxes and 8 percent from fees; an additional 39 percent came from bond proceeds.[3]

A. Service Fees

Fees provide a direct link between the demand for a service and the costs of providing it. A well-structured fee, where there is a clear relationship between the demand for services and the cost of providing them, is the most equitable means of matching program costs with those responsible for or those benefiting from program activities. In addition, there is a growing acceptance among both legislatures and the public of the concept of "fee for service" in the provision of public services.

Examples of drinking water fees include fees to conduct sanitary surveys, to review and certify construction plans, and to conduct laboratory analyses of samples.

Fees can be either fixed, where all parties pay the same amount, or variable, where the fee is based on a rate schedule based on differences in the cost of providing the service. An example of a variable fee is a construction review fee based on the number of connections or total cost of the project.

An example of a service fee used as an AFM is New Hampshire's recent Permit to Operate Fee that will be used to fund the drinking water program and maintain primacy, allowing the primacy agency to increase its program staff by 50 percent. Under the fee structure, community systems pay a fixed operating permit fee of $600 per year, except that no home will pay in excess of $10 per year; this cap avoids undue financial burdens on households connected to small community systems. Non-transient non-community systems pay a flat fee of $200 annually.

Although they can, and should, be structured to cover the full cost of providing a service (including collection), the drawback to fees is that they generally do not provide adequate revenues to cover the full costs faced by a drinking water program. Historically, States and municipalities have been reluctant to set fees high enough to recover program costs and have charged only a nominal amount for services. Therefore, a comprehensive funding package for increased revenues should include other AFMs in addition to fees.

B. User Fees

Historically used most frequently by sewer and water utilities, user fees are structured so that only those who use a good or service bear its cost. If they are applied to a broad base, user fees even at a low rate can generate sufficient revenues to pay for general operating and maintenance costs.

The political atmosphere had a mixed effect on the use of fees. Some States have opposed them because they are considered to be "taxes in disguise," or because they felt that

AFMs would have a negative effect on their economies. In other States, fees have been seen as a way to get the user of a service to pay for it.

One of the key issues in any type of user fee is that of equity. Because of their larger customer base, large utilities would bear the brunt of a user fee program and so would be less likely to support one. In designing the fee structure, it is important that larger utilities are not completely subsidizing smaller systems. One idea is a cap on the total amount that a large system can be charged -- as a result, their per person rates are lower than the smaller systems even though the total amount of money generated by the fee is larger than for smaller systems.

C. Fines and Penalties

Because they are imposed for violations of regulations, fines and penalties do not provide a steady stream of revenue for drinking water programs. However, States can generally exercise considerable discretion in the use of these revenues. In addition, fines are based on the principle that "the polluter pays" and consequently, enjoy both public and legislative acceptability. While States should not rely on fines or penalties as a major funding source of program activities, a primacy agency should periodically reevaluate its penalty levels to determine if they provide water systems with the appropriate incentives.

1. These measures are taken from a draft copy of "Drinking Water Mobilization Coordinators' Handbook," published by the Office of Drinking Water, September 1989.

2. Funding Environmental Programs: An Examination of Alternatives, published by the National Governor's Association, 1989.

3. Much of the material on AFMS in the following sections was excerpted from Paying for Safe Water: Alternative Financing Mechanisms for State Drinking Water Programs, published by EPA's Office of Drinking Water, May 1990.

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC UTILITY CONTROL

Appendix C

DEPARTMENT OF PUBLIC UTILITY CONTROL REGULATIONS
FOR
APPLICATION PROCEDURES AND CRITERIA FOR ISSUING CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY
FOR
SMALL WATER COMPANIES

FINAL REGULATIONS

EFFECTIVE SEPTEMBER 28, 1987

One Central Park Plaza • New Britain, Connecticut 06051
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The Regulations of Connecticut State Agencies [illegible] Sections 16-262m-1 to 16-262m-9, inclusive, as follows:

Section 16-262m-1. **Definitions**

(a) "Community Water System" or "System", as used herein, shall mean a system which supplies to the public piped water for human consumption, if such system has at least fifteen and no more than two hundred fifty service connections or regularly serves an average of twenty-five to one thousand persons daily at least sixty days out of the year, when such water is supplied as part of a lease or contract. A community water system includes but is not limited to, (1) any collection, treatment, storage, and distribution facilities under control of an operator of such system and used primarily in connection with such system, and (2) any collection or pre-treatment storage facilities not under such control which are used primarily in connection with such system. Community water systems may include, but are not limited to service to: residential sub-divisions, cluster-housing projects, homeowners associations, municipalities, tax districts, duplexes, townhouses, apartment buildings or complexes, residential and office condominium developments, elderly housing projects, convalescent homes, trailer or mobile home parks, industrial parks, shopping centers or malls, large manufacturing buildings and other commercial enterprises.

(b) "Feasible Interconnections", as used herein, shall mean that the extension of an existing utility's water mains is considered feasible to serve a proposed project with at least fifteen service connections or twenty-five persons if the developer's investment for such extension, including service connections and appurtenances, is less than $5,000 (construction costs only) per dwelling or office unit and if there is sufficient supply and storage facilities to accommodate the anticipated demand available from the existing utility. If there is insufficient supply and storage available from the existing utility, the cost of developing such facilities may be included in the water main extension proposal, as additional items.

(c) "Duplication of Water Facilities" as used herein, shall mean that plant and equipment of a community water system which the Department of Public Utility Control determines is substantially repetitive to the plant and equipment of another water purveyor or community water system within one linear mile of the proposed project, as measured along public or private roadways. Geological factors such as elevation differences, slope of the land and depth to bedrock will be considered in determining duplication of facilities.

(d) "Expansion", as used herein, shall mean the following: (1)a five percent increase in the number of service connections to be served by a community water system, above the number allowed under an existing certificate or permit issued by the Department of Public Utility Control and the Department of Health Services, or (2)a five percent increase in the number of service connections to be served by a community water system above the number served as of the effective date of these regulations.

(e) "Phase I-A, Phase I-B and Phase II", as used herein, shall mean the three parts of the application and review procedure for the construction or expansion of any community water system.

Phase I-A grants the developer approval of his well sites and permission to obtain the well drilling permits from the appropriate town to proceed with groundwater exploration and development of such wells. The issuance of this approval means that the Department of Public Utility Control and the Department of Health Services have determined that a main extension to an existing system is not feasible (for new water systems only) and that there will be no duplication of service of other existing water utilities in the area when the project is finished. Phase I-B evaluates the well yield and water quality data so that proper pump sizing, storage and appurtenant equipment and any required treatment processes can be incorporated into the design of the water system. This approval permits the developer to obtain building permits from the town to clear the site, lay out the roads, construct the drainage facilities and dig or pour the foundations of the buildings themselves. Phase II Approval, the final Certificate, permits the developer to go forward with the remainder of the project, i.e. installing the water distribution system and waterworks (storage tanks, transfer pumps, meters, etc.) and the septic or sewer systems (assuming appropriate approvals have already been obtained from the Department of Health Services or local Directors of Health or Department of Environmental Protection) for the septic or sewer systems and the diversion of water.

(f) "Service Connection", as used herein, means the service pipe from the main to the curb stop, at or adjacent to the street line or the customer's property line.

(g) "Customer", as used herein, means any person, firm, corporation, company, association, governmental unit, lessee who by the terms of a written lease is responsible for the water bill, or owner of property furnished water service by a water company.

(h) "Existing System", as used herein, shall mean a regulated public service or municipal utility or regional water authority having an operating water system within one linear mile of the proposed project as measured along public and private roadways.

(i) "Satellite system" as used herein, shall mean a non-connected community water system of an existing system.

(j) "Regulated Public Service Utility", as used herein, shall mean a water company, as defined in Section 16-1 of the General Statutes of Connecticut, that is under the jurisdiction of the Department of Public Utility Control.

Section 16-262m-2. Chronological Application Procedures

The following procedures for applying for and issuing certificates of public convenience and necessity shall be followed by any applicant for a certificate of public convenience and necessity in accordance with General Statutes of Connecticut Section 16-262m, and by the Department of Public Utility Control, the Department of Health Services, and any other participant in the proceeding on such an application:

(a) The Department of Public Utility Control may conduct a pre-application conference with any potential applicant.

(b) (1) The applicant shall submit three (3) originals of the application for approval under Phase I-A, Phase I-B, or Phase II to the Department of Public Utility Control's Engineering Division in the format prescribed by the Department of Public Utility Control.

(2) An application fee of $100.00 shall be enclosed with the initial application when it is submitted to the Department. Checks shall be made payable to the Treasurer of the State of Connecticut. Payment of only one (1) fee shall be required per application, even if the application is submitted in separate phases. An applicant whose application is rejected or denied will be required to pay a separate fee for any application subsequently resubmitted. An applicant may elect to submit Phase I-A, Phase I-B and Phase II data of the application simultaneously, but each Phase will be reviewed separately.

(c) The Department of Public Utility Control will forward one copy of the application for approval under Phase I-A, Phase I-B and Phase II to the Department of Health Services, notifying it that processing and reviewing should begin. The Department of Health Services should conduct well site inspections upon receiving notice from the Department of Public Utility Control that the Application is considered complete and an interconnection has been found not to be feasible.

(d) The Department of Public Utility Control shall review each phase of the application preliminarily for completeness and either accept or reject the application, or specify the additional information required. The Department of Public Utility Control shall notify, in writing, any applicant and the Department of Health Services of the Department of Public Utility Control's decision to accept or reject the application or to require additional information. Upon completion of review of each phase of an application, the Department of Health Services shall forward its approval or denial in writing to the Department of Public Utility Control.

(e) (1) The Department of Public Utility Control and the Department of Health Services shall simultaneously review each phase of the application on its merits, and either recommend approving or denying the application's request.

(2) The Department of Public Utility Control and the Department of Health Services may consult with each other and with the applicant to modify the application prior to such approval or denial, providing all modifications are confirmed and submitted in writing by the applicant.

(f) Upon the joint approval of any phase of the application by the Department of Public Utility Control and the Department of Health Services, the Department of Public Utility Control shall issue a letter of approval for that phase of the project.

(g) Upon the joint agreement between the Department of Public Utility Control and the Department of Health Services, the two agencies shall issue the Certificate pursuant to General Statutes of Connecticut Section 16-262m. If either Department finds reason for denial of a Certificate, no Certificate shall be issued.

(h) Any applicant issued a certificate under Phase II shall submit one (1) copy of as-built plans, certified by a professional engineer registered in the State of Connecticut, each, to the Department of Public Utility Control, to the Department of Health Services, to the specified owner of the water system, and to the town in which the project is located. These as-built plans shall be submitted to the respective parties no later than ninety (90) days from the completion of the construction.

(i) The Department of Public Utility Control and the Department of Health Services shall complete its review of each phase of the application in accordance with the schedule set forth below:

(1) Phase I-A reviews shall be completed within sixty (60) days of the Applicant filing the information specified in Section 16-262m-5 herein, with the Department of Public Utility Control;
(2) Phase I-B reviews shall be completed within thirty (30) days of the Applicant filing the information specified in Section 16-262m-6 herein, with the Department of Public Utility Control:
(3) Phase II reviews shall be completed within sixty (60) days of the Applicant filing the information specified in Sections 16-262m-7, 16-262m-8 and 16-262m-9 (if applicable) herein, with the Department of Public Utility Control;
(4) If the Applicant elects to submit Phase I-A, Phase I-B and Phase II data of the application simultaneously, each phase will be reviewed separately as indicated in paragraphs 1, 2 and 3 above.

Section 16-262m-3. Application and Approval of Three-Phase Construction

(a) The application for a new system or for an expansion of an existing system which involves a new water source shall be submitted and reviewed in three phases, as Phase I-A, Phase I-B and Phase II. The same chronology and procedures established in Section 16-262m-2 shall be followed sequentially first for Phase I-A and subsequently for Phase I-B and Phase II. It is recognized that some applications for expansion may not require a Phase I-A or Phase I-B review. In such cases only a Phase II application shall be required.

(b) (1) The application for Phase I-A, shall identify items including, but not limited to, the following: (A) The feasibility of interconnection to an existing system; (B) the location and proposed construction of any source of supply; (C) the possible duplication of service and water facilities caused by the installation of the proposed system; (D) the name of an existing regulated or municipal water utility or regional water authority which will own, operate and maintain the final constructed water supply facilities if they are to remain as a non-connected satellite system;

(2) The Department of Public Utility Control and the Department of Health Services shall determine the issues in subparagraphs (b)(1)(A), (b)(1)(B), (b)(1)(C), and (b)(1)(D) in this subsection;

(3) If the Department of Public Utility Control and Department of Health Services jointly determine that the applicant meets the criteria reviewed under subdivisions (1) and (2) of this subsection, the Department of Public Utility Control shall grant approval of the Phase

I-A application, in writing to allow the applicant to construct the source of supply proposed in the application. The applicant shall proceed to construct the source of supply in conformance with the application and any conditions set by the Department of Public Utility Control and Department of Health Services in the approval. Applicants proposing withdrawals in excess of 50,000 gallons of water from one or more wells joined in a system where combined maximum withdrawal exceeds 50,000 gallons of water during any twenty-four hour period must confer with the Department of Environmental Protection to determine appropriate water diversion permit requirements under Section 22a-365 of the General Statutes of Connecticut;

(4) Approval under Phase I-A shall not in and of itself guarantee the later issuance of a certificate of public convenience and necessity.

(c) (1) The application for Phase I-B shall identify items including, but not limited to, the following:

(A) well yield data for each well, based on a suitable yield test performed by a qualified well yield tester in accordance with the criteria set forth in section 16-262m-8 herein and Section 19-13-B51(K) of the Regulations of Connecticut State Agencies; and

(B) water quality data for each well as specified by the Department of Health Services.

(2) The Department of Public Utility Control and the Department of Health Services shall jointly evaluate the data in subparagraphs (c)(1)(A) and (c)(1)(B) in this subsection.

(3) If the Department of Public Utility Control and Department of Health Services determine that the applicant meets the criteria reviewed under subparagraphs (c)(1)(A) and (c)(1)(B) of this subsection, the Department of Public Utility Control shall grant approval of the Phase I-B application, in writing to allow the applicant to obtain building permits to perform the functions specified in section 16-262m-1(e). The applicant shall proceed with construction in conformance with the application and any conditions set by the Department of Public Utility Control and the Department of Health Services in the approval. Approval under Phase I-B shall not in and of itself guarantee the later issuance of a certificate of public convenience and necessity for the applicant.

(d) (1) After receiving approval to proceed with the various aspects of the project under subsection (c) above, an applicant shall submit an application under Phase II. This application shall demonstrate items including, but not limited to, the following:

(A) conformance of proposed construction with the Department of Public Utility Control's and Department of Health Services' engineering standards;

(B) conformance of proposed construction with all federal and state standards on water supply;

(C) the financial, managerial, and technical resources of the applicant and ability to maintain adequate service.

(2) The Department of Public Utility Control and Department of Health Services shall jointly evaluate the issues in subparagraphs (d)(1)(A), (d)(1)(B) and (d)(1)(C) of this subsection.

(3) If the Department of Public Utility Control and Department of Health Services determine that the application meets the criteria in subparagraphs (d)(1)(A), (d)(1)(B) and (d)(1)(C) of this subsection the Department of Public Utility Control and Department of Health Services shall jointly issue a certificate of public convenience and necessity to the applicant.

(4) The applicant shall notify the Department of Public Utility Control, the Department of Health Services and the specified owner of the water system when the construction of the pumphouse, distribution system and service lines commence so that a field inspection can be scheduled to witness the installation of such items and when construction is completed so that a field inspection can be scheduled to inspect the as-built facilities.

Section 16-262m-4. Options When Main Extensions are not Feasible

(a) In the event that the Department of Public Utility Control and Department of Health Services determine that a main extension is not feasible, i.e. that it is too costly to construct a main extension; and that no existing regulated public service or municipal utility or regional water authority is willing to expand or own, operate and maintain the final constructed water supply facilities as a non-connected satellite system, the applicant may pursue the following options:

(1) If an existing regulated public service or municipal utility or regional water authority is willing to provide satellite ownership and management services, but is unable to meet all the criteria described in Sections 16-262m-8 and 16-262m-9 herein, the Department of Public Utility Control and the Department of Health Services may waive specific criteria in writing, if it is deemed to be in the best interest of the public affected.

(2) The applicant may withdraw the application and request the town in which the project is to be constructed to determine if the town's zoning requirements will permit individual wells. If this proposal is acceptable to the town, the developer may change the configuration of the project in order to accommodate individual wells. This option is available to the applicant at any time and may be pursued without obtaining a Certificate of Public Convenience and Necessity.

(3) The applicant may continue forward with the application by sustaining the burden of proof that the entity that will own the water system has the financial, managerial and technical resources to operate the proposed water supply system in a reliable and efficient manner and will provide continuous, adequate service to the proposed consumers to be served by the system. The criteria for meeting this burden of proof is set forth in Section 16-262m-9 of these Regulations.

The above options must be pursued in the order presented, i.e. option three cannot be pursued until options one and two have been exhausted.

(b) Any party who is aggrieved such that a specific personal and legal interest of said party has been specially and adversely affected by the decision to approve, reject or modify the application for the issuance of a Certificate may request a hearing which will be held jointly before the Department of Public Utility Control and the Department of Health Services. Such appeal will be based on the Administrative record compiled by the Department of Public Utility Control and the Department of Health Services including such additional relevant evidence and testimony as the parties may submit.

(c) If a community water system, as defined in Section 16-262m-1(a) herein, is constructed without the required Certificate of Public Convenience and Necessity, the Department of Public Utility Control and the Department of Health Services shall notify the appropriate Town officials, of the Town in which the system is located, that such Town is responsible for the future operations of that community water system, in accordance with Section 8-25a of the General Statutes of Connecticut.

Section 16-262m-5. Components of the Application Under Phase I-A

Any application for Phase I-A shall include, but not be limited to, the following:

(a) exact legal name, address, and telephone number of applicant and name and title of contact person; in the event the applicant is a corporation, the applicant should also provide the names and addresses of the corporate officers;

(b) name, address, telephone number of proposed registered professional civil engineer who will have design and supervision responsibility for the construction of the system;

(c) a check for $100.00 payable to the Treasurer of the State of Connecticut;

(d) engineering data certified by a professional engineer registered in the State of Connecticut as follows:

(1) At a minimum, a site plan and specifications for any water sources which shall provide for adequate well location, adequate well construction procedures, and proper sanitary easements for the wells. There shall be at least two wells shown on the plan and a reserve site for additional wells, as needed.

(2) Plans showing the relationship of the proposed water system to the sanitary sewage and storm drainage facilities, and indicating the distances from the proposed wells; wetlands and watercourses, observation wells; contour lines, customer premises, and sanitary sewage, storm drainage and septic facilities;

(3) A minimum 8" square location plan map showing the location and extent of service areas of any existing community water system or other water purveyor within one linear mile of any portion of the proposed system and identifying all adjacent entities or property owners;(use a Scale 1" = 2000'). The map should also indicate any known probable future building areas (as filed with the Town Planning & Zoning Commission) which might reasonably be served by main extensions of the subject system;

(4) An evaluation of the quantity of water necessary to provide an adequate supply at required pressures to existing and projected customers, including probable future building areas, during periods of average and peak demands for at least 15 years after construction;

(5) Sanitary survey evaluation of pollution sources (present and past), such as, but not limited to: sanitary sewage, cemeteries, landfills, salt storage and commercial and industrial facilities, which might affect the groundwater quality;

(6) A description of the groundwater quality and subsurface soils as classified by the United States Geological Survey, for the project area;

(7) A plan for controlling pollution sources which might affect the wells;

(8) A description of the procedures, methods, schedule and location, for conducting required sampling, testing and reporting on yield testing and water quality;

(9) A topographical map showing the relationship and location of the proposed project to the surrounding area;

(10) A brief description of the water system project and operational layout;

(e) A letter from the town where the project is located indicating whether or not fire protection facilities are required to be included in the design of the water system. If fire protection is to be required, the letter from the town should indicate the number of hydrants required to serve the project as well as the minimum distance allowed between hydrants;

(f) letters from all regulated public service or municipal water utilities or regional water authorities within one linear mile of the applicant's project expressing willingness or unwillingness to serve as water supplier to the applicant's project. If a water utility expressed willingness to serve, the letter submitted shall include the proposed manner of service and cost, via main extension or satellite ownership. The letter shall discuss the alternative of the water utility owning and operating the system as a non-connected satellite system. The letter shall also include the linear footage, size of pipe, material, and cost of a main extension including service connections, if such extension were required to be constructed. It should also indicate whether additional supply, storage and booster facilities, and their related costs, are necessary for providing proper service;

(g) if the applicant's project is located in an area where there is an adopted coordinated plan, in accordance with Sections 25-33c to 25-33j, inclusive, of the General Statutes of Connecticut, the water utility expressing willingness to serve the applicant's project must do so, in conformance with the established plan with full regard to exclusive service areas and satellite ownership and management stipulations. If a water utility coordinating committee has been convened for the appropriate management area, but does not yet have an approved coordinated plan, the applicant should furnish a letter from the committee indicating that the project is conceptually agreeable to it.

Section 16-262m-6. Components of the Application Under Phase I-B

Any application for the issuance of a certificate of public convenience and necessity under Phase I-B shall include, but not be limited to, the following:

(a) A copy of the well drillers completion report for each well;

(b) A copy of the yield test results for each well indicating pumping rates, certified well yields and drawdown information;

(c) A copy of the water quality test results from samples obtained during the yield test;

(d) A signed agreement between the developer of the water system and the existing regulated public service or municipal water utility or regional water authority indicating that the final constructed water supply facilities will be dedicated to that utility. With a regulated public service company such agreement will specify any refunds that the developer may be entitled to for each service connection made to the community water system. The utility will be expected to receive from the developer an itemized breakdown of the actual costs of the water system facilities so that proper accountability and rate-making treatments (if applicable) can be afforded to the utility by the Department of Public Utility Control.

(e) The requirements of Section 16-262m-9 shall be addressed in Phase I-B.

Section 16-262m-7. Components of the Application Under Phase II

Engineering data certified by a professional engineer registered in the State of Connecticut as follows:

(a) Plans and specifications for the project must include but not be limited to: transfer pumps, well pumps and pump curves, hydropneumatic tanks, treatment facilities, distribution system layout, atmospheric storage facilities, metering (each source and customer), location of sample taps, on-site standby power, presence of emergency alarms, location of pressure gauges, location of gate valves and blow-offs, water level gauges on storage tank, fire protection (if necessary), and disinfection procedures;

(b) A hydraulic gradient of the proposed system;

(c) A detail of a typical service line, service connection, thrust block installation, hydrant installation, cross-section of trench containing pipe, and a meter installation;

(d) A plan and profile drawing of the water main and all other underground utilities (sewer, gas, electric, telephone or cable television);

(e) Name, address, telephone number and title of proposed operator with day-to-day responsibility for system.

Section 16-262m-8. Design Criteria

All community water systems proposed for construction or expansion in accordance with Section 16-262m of the General Statutes of Connecticut shall be designed substantially in accordance with the technical standards enumerated herein.

(a) For the purposes of this Section and Sections 16-262m-5, 16-262m-6 and 16-262m-7 inclusive, the following definitions shall apply:

(1) "Anticipated Average Daily Demand" shall mean the estimated normal water usage of the system as determined for the most representative 24 hour period of record not affected by unusual demand conditions such as drought or a significant temporary increase in demand;

(2) "Peak Hour Demand" shall mean largest hourly volume of water consumed and shall be considered 1/3 of the average daily demand;

(3) "Design Population" shall mean the estimated number of people per service connection, calculated as follows, unless specific circumstances dictate otherwise:

Type of service	Design Population Per Service Connection
Single family dwelling (Over 3 bedrooms add 1 person per additional bedroom)	4
Multi-dwelling (i.e. apartments, elderly housing, duplexes, townhouses and residential condominiums	
One bedroom unit	2
Two bedroom unit	3
Three bedroom unit (over 3 bedrooms add 1 person per additional bedroom)	4
Mobile Homes or Trailers	2.5
Convalescent Homes	Use Number of beds
All other components described in 16-262m-1(a)	Use Estimated Population

(4) "Safe Daily Yield of a Water Supply System" shall mean the amount of water which can be delivered to the system from all the system sources at the safe yield rate simultaneously in an 18 hour period expressed in gallons per day;

(5) "Safe Yield of a Well" shall be calculated as follows: (A) Unconsolidated aquifer ground water sources. The safe yield shall be based on an analysis of the impact of minimum water table elevations projected in a dry period on the yield of the well(s) and an analysis of critical impacts such as decreased stream flow or induction of pollutants. (B) Confined and bedrock aquifer ground water sources. Safe yield shall be equal to 90% of the hourly yield of the well multiplied by 18 hours of pumping per day except that the safe yield may be less when utilization of this yield will have unacceptable impacts or when historical reports or other information indicates that the safe yield is less. Hourly well yield shall be based on a pump test during which the cone of depression caused by the pumping of the well shall be stabilized for at least 24 hours;

(6) "Source" shall mean any Department of Health Services approved well, spring, reservoir or other location where water is siphoned, pumped, channeled or drawn for use in a potable water supply;

(7) "Source of Pollution" shall mean any place from which stems or condition which may cause pollution of a ground or surface water supply. It may include but not be restricted to a watercourse including any stream, pond, lake or river; privy; subsurface sewage disposal system; cemeteries; sanitary landfill; sewage lagoon; industrial waste disposal location; sanitary or storm sewers; or a buried oil or gasoline storage tank;

(8) "Well Pump Capacity" shall mean the maximum quantity of water the well pump can supply under normal operating conditions. The pump capacity shall not exceed the safe yield of the well;

(9) "Yield of a Well" shall mean the amount of groundwater which can be withdrawn from a well as determined by the yield test. The yield of a well is expressed as gallons per minute (gpm);

(10) "Service Pipe", as used herein shall mean the pipe that runs between the curb stop, at or adjacent to the street line or the customer's property line, and the customer's place of consumption.

(b) Facility location. These include such items as, but not limited to, treatment plants, pumping stations, storage tanks, etc., but do not include water intakes and connecting pipelines.

New facilities are to be located: (1) Above the level of the one hundred year flood and not within the floodway boundary as established on flood boundary and floodway mapping prepared pursuant to the federal flood insurance program; (2) Where chlorine gas will not be stored or used within three hundred feet of any residence; and (3) Where the facility is not likely to be subject to fires or other natural or manmade disasters.

(c) The following equations are to be used when determining the design population and water demand of the community water system. Where unusual circumstances exist, the Department of Public Utility Control and Department of Health Services will determine the appropriateness of these equations.

(1) Design Population Served = number of service connections x number of people per service;

(2) Average Daily Demand = population served x 75 gallons per person per day;

(3) Peak Hour Demand = average daily demand x 1/3.

(d) Water Supply requirements:

(1) Each community water system shall be designed to furnish and maintain sufficient facilities to provide a continuous and adequate supply of water; and there shall be at least a 15% margin of safety maintained between the system's safe daily yield and anticipated average daily demand. Unless other acceptable provisions are made to assure continuous service, the community water system should be able to meet the anticipated average daily demand with its largest well and/or pump out of service;

(2) For a system utilizing only groundwater supplies, a minimum of 2 well sources shall be provided;

(3) All wells shall be subjected to a minimum 72-hour yield test, by a qualified well yield tester, such that at a constant pumped discharge rate, the drawdown level has stabilized for at least a 24-hour period. The pump must run continuously during the yield test for the entire 72 hour period irregardless of the anticipated well yield The following items must be recorded and measured during the test:

(A) Static water level before pumping;

(B) Date, time, pump rate and drawdown (at least hourly);

(C) Time and water levels after pump has been shut down until well has recovered;

(D) Each well shall have a drawdown curve plotted from the results of the yield test, with the tester's established safe daily yield at its stabilized drawdown certified and printed thereon. Suitable provisions shall be made in cases of wells that are located in close proximity to each other and subject to "interference." In such cases a simultaneous pumping of each well shall be required;

(E) Whenever possible, the pump test shall be performed during the summer months and should be conducted during a time period absent of precipitation or as reasonably close to non-precipitation as possible;

(F) Suitable provisions including data from observation wells shall be made in cases of wells located in close proximity to wetlands, drainage ways, or watercourses in order to quantify the effect of induced recharge on flows in such wetlands, drainage ways or watercourses;

(4) All wells, especially deep drilled rock wells, are subject to diminution of their yields after a period of time. Therefore, they should be periodically monitored for possible loss of yield, and scheduled for an appropriate maintenance program when conditions dictate. When new wells are added at a future date, especially in the vicinity of existing wells, suitable measures shall be taken to ascertain potential loss of yield from the adjacent wells simultaneously with the yield testing of the new wells;

(5) Reserve well site property is required and must be shown on the final map;

(6) There shall be a safe yield capacity sufficient to supply 75 gallons per person per day and at least 15% additional supply to maintain an adequate margin of safety and be able to accommodate adjacent growth in the future.

(e) Source Protection:

(1) The following minimum separating distances are required by Public Health Code Sections 19-13-B51 and 19-13-B103 (Technical Standards).

Item	Minimum Distances* Under 10 gpm	 10-50 gpm	 Over 50 gpm
(A) Septic system, buried oil tanks or other sources of pollution	75'	150'	200'
(B) Cast iron sewer pipe or equivalent	25'	75'	100'
(C) Surface water body or drain	25'	50'	50'

*Greater separating distances are required for gravel wells with pumping capacities greater than 50 gpm where ledge is found at less than 10 feet and/or the soil percolation rate is faster than 1 inch per minute at surrounding septic systems.

(D) Sanitary conditions within the radial separating distance required shall be under the control of the water supply owner by direct ownership, easement, or other arrangement approved by the Department of Health Services and detailed on the as-built map.

(f) Well Construction and Water Quality:

(1) Wells shall be constructed in accordance with Public Health Code Regulation 19-13-B51 and the Regulations of Connecticut State Agencies Sections 25-128-1 through 25-128-64, inclusive (Regulations of the Well Drilling Industry);

(2) The bacterial, physical, inorganic chemical, organic chemical and radiological quality of the source must satisfy the requirements of Public Health Code Regulation 19-13-B102 and the Connecticut Department of Health Services action levels for organic compounds. Suitable treatment may be required by the Department of Health Services;

(3) Each well shall be equipped with a water level probe for periodic drawdown measurement; and there shall be provided suitable low water level well pump shut-off and lightning protection devices in accordance with Section 19-13-B102(n) of the Regulations of Connecticut State Agencies.

(g) Atmospheric Storage Tank:

(1) The atmospheric storage tank shall be equipped with a properly bolted entry hatch to allow access for cleaning and painting of the tank and a filler pipe to provide for water to be trucked in. The filler pipe must be capped and locked. The tank shall also be equipped with a sight glass gauge, a screened vent pipe and a high and low water level

signal system. There shall be a drain valve at the bottom of the accessible face of the tank. Drain lines must discharge to the ground. No direct connection to a sanitary sewer will be permitted;

(2) Atmospheric storage tank capacity shall be at least 200 gallons per residential customer or equal to the average daily demand of the system, whichever is the greater number. If commercial or industrial customers are included, additional storage shall be provided based on reasonable average day estimated water usage thereof;

(3) Hydropneumatic tank and transfer pumps:

(A) A hydropneumatic tank and transfer pump arrangement, used in tandem with the atmospheric tank, shall be sized to accommodate the peak hour demand. A minimum of two (2) transfer pumps shall be installed to operate alternately, each capable of providing water to the system at the peak hour demand rate; (B) The transfer pumps shall be installed between the atmospheric tank and the hydropneumatic tank; (C) The required gross volume of the hydropneumatic storage tank shall be calculated using the following equations:

$$\text{Usable Volume} = 5 \text{ minutes} \times \text{largest transfer pump capacity (gpm)}$$

$$\text{Gross Volume} = \frac{100\%}{\%\text{ usable volume}} \times \text{Usable Volume}$$

(D) Transfer pumps shall be protected by low water level shutoff controls in the storage tank.

(4) All waterworks equipment shall be designed and installed so as to assure safe and easy access to the equipment for normal service and for repairs or replacement work.

(h) On-site Standby Power:

(1) Wherever possible, there shall be included on-site a permanently installed gasoline, propane-fueled, diesel, natural gas or oil fired generator capable of supporting at least the largest well pump, one transfer pump, any high service booster stations and all treatment systems simultaneously in the event of an electrical outage. Portable generators may be considered acceptable as an alternate to an on-site generator;

(2) Fuel storage shall be above ground, and provided with a containment area capable of holding the full volume of the fuel tank.

(i) Transmission and Distribution System:

(1) The transmission pipelines, (i.e. that pipe from the source of supply to the pumphouse or treatment facility or from the source of supply to the distribution system) from sources of supply shall be designed to deliver, in combination with related storage facilities and to the limits of the capacity of those sources of supply, the maximum requirements of that portion of the system which is dependent upon such transmission pipelines;

(2) The distribution system shall be of adequate size and design to maintain minimum normal operating pressures. Minimum distribution pipe diameter shall be 6 inches except in cul-de-sacs where the mains are not subject to being extended or as otherwise approved by the Department of Public Utility Control. If fire protection is to be provided, minimum distribution pipe diameter shall be 8 inches. All mains shall be installed in the rights-of-way of paved roadways to allow all weather access and to facilitate repairs;

(3) Normal operating pressures, including peak demand conditions in the distribution main shall be between 35 psi and 125 psi at the service connection;

(4) Where static pressures would exceed 125 psi, pressure reducing devices shall be provided on distribution mains;

(5) Insofar as practicable, the distribution system shall be designed so as to avoid dead ends in the mains. Suitable right-of-way easement control shall be provided to the proposed owner and operator and his assigns to permit future such extensions. Where a dead end line is to be used, an adequately sized blow-off shall be installed at the end of the line;

(6) Sufficient isolation valves shall be provided on water mains so that inconvenience to customers and sanitary hazards will be minimized during repairs and flushing. At intersections, valves shall be installed on all connecting mains;

(7) Customer Booster Pumps: No community water system shall be designed to furnish water service to any customer who must utilize a booster pump to pump water from the utility's water main into the customer's plumbing facilities in order to maintain a minimum 35 psi pressure service, except in extreme circumstances and when authorized by the Department of Public Utility Control. The system's gradient shall be designed to preclude this need under reasonable foreseeable conditions for the ultimate service area. Consideration shall be given both to deteriorating pipe conditions leading to increases in pressure losses in the mains and also to any potential hazard which might be created if contamination should be introduced into the system through a cross-connection when a negative pressure is induced in the water main by a customer's booster pump;

(8) Air Relief Valves: At high points in water mains where air can accumulate, provisions shall be made to remove the air by means of hydrants or air relief valves. Suitable protection measures shall be included in the design to cover situations where flooding of the manhole or chamber may occur;

(9) Air Relief Valve Piping: The open end of an air relief pipe from automatic valves shall be extended to at least one foot above grade and provided with a screened, downward-facing elbow. The pipe from a manually operated valve should be extended to the top of the pit;

(10) Chamber Drainage: Chambers, pits or manholes containing valves, blow-offs, meters, or other such appurtenances to a distribution system, shall not be connected directly to any sewer. Such chambers or pits shall be drained to the surface of the ground where they are not subject to flooding by surface water, or to absorption pits underground;

(11) When installing pipe, care must be taken to keep the pipe clean. Trenches shall be kept as free of water as is possible;

(12) When laying of pipe is interrupted overnight or for any longer period of time, the open end of the pipe shall be plugged tightly and the open trench covered with wood or steel covers;

(13) Installation and pressure testing shall incorporate the provisions of the American Water Works Association Standards and/corresponding installation procedures;

(14) A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material, free of detrimental substances, shall be used. That backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. During pipe laying, stones, boulders and any other significantly detrimental materials found in the trench shall be removed for a depth of at least six inches below the bottom of the pipe;

(15) All pipe shall be provided with a minimum earth cover of 4.5 feet. When rock blasting is necessary, ample excess depth shall be provided to allow for a suitable depth of bedding material between the pipe bottom and the rock base. Where frost can be expected to occur deeper than 4.5 feet, additional pipe cover shall be provided to suit. The mains should have adequate cover over the top of the pipe, using suitable backfill material, for protection against surface loads. For river or stream crossings where the water main may be exposed to the air, the water main shall be protected against freezing by an alternate means;

(16) Whenever possible, water and sewer lines (sanitary and storm) shall be located in separate trenches at least 10 feet apart. Where laid in the same trench, the water pipe shall be laid on a shelf at least 18 inches above the sewer pipe and at least 12 inches, but preferably 18 inches, horizontally from the side of the sewer pipe. The horizontal separating distance between a sanitary sewer manhole and a water line shall be 10 feet;

(17) Where water and sewer lines cross, a minimum vertical distance of 18 inches shall be maintained between the water and sewer line with the sewer at the lower elevation. At crossings, pipe joints shall be spaced as far from the crossing as possible;

(18) For force sewer lines there shall be no deviation from the 10 foot horizontal separation and the 18 inch vertical separation distances;

(19) When it is not possible to satisfy the requirements in paragraph (17) of this subsection above one or more of the following precautions may be approved by the Department of Health Services as acceptable alternatives:

(A) Sleeving of the sewer;
(B) Concrete encasement of the sewer;
(C) The use of a thicker-walled sewer pipe (pressure testing will be required);
(D) Concrete encasement of the water pipe;
(E) The use of thicker-walled water pipe;
(F) The design engineer may also propose other precautionary measures which will be subject to review and approval;

(20) The layout plan should provide for suitable ownership or easement control of the water supply operator to permit further extension of the piping, particularly where dead ends may occur and/or where expansion of the water system can be readily foreseen.

(j) Materials:

(1) Metallic and non-metallic materials may be used to construct component parts of a water system including, but not limited to, conduits, pipes, couplings, caulking materials, protective linings and coatings, services, valves, hydrants, pumps, tanks and reservoirs; provided:

(A) The materials shall have a reasonable useful service life;

(B) The material shall be capable of withstanding the internal and external forces to which it may be subjected while in service;

(C) The material shall not cause the water to become impure, unwholesome, nonpotable or unhealthful;

(D) Materials and equipment shall be designed and selected with factors of safety included and installed as to mitigate corrosion, electrolysis and deterioration. When the possibility of a near future interconnection with another utility exists, some components such as pressure tanks and compressors may be designed for limited service life;

(E) Use of non-metallic pipe shall require a suitable tracer wire for pipe location;

(F) No material shall be allowed which does not meet standards established by the American Water Works Association or other comparable standards;

(2) Specifications for materials, equipment, and testing shall be in accordance with all applicable American Water Works Association standards, the specified water utility which will eventually own the

system, and the requirements of the Department of Health Services and the Department of Public Utility Control. Such Specifications shall include the following:

(A) Proper protection shall be given to metal surfaces by paints or other protective coatings;

(B) All paints, liners or coatings proposed for use in a water supply system that will come in contact with the potable water must be approved by the Department of Health Services. Following final curing, disinfection and dissipation of the chlorine residual, water samples must be collected and tested in accordance with Section 19-13-B102 of the Regulations of Connecticut State Agencies, for hydrocarbon, organohalide, inorganic chemical, physical, and total coliform analysis from a sampling point approved by the Department of Health Services. The results of these analyses must be reviewed and approved by the Department of Health Services both at the time of initial drilling of the wells and after the design and construction stages but before using the facility;

(C) Cathodic protection, when required, must be designed and installed by competent technically qualified personnel;

(3) Upon completion of the construction of the community water supply system, the well(s), storage tank(s), and appurtenances must be disinfected, in accordance with procedures established by the Department of Health Services;

(4) Prior to acceptance and use, the design engineer shall supervise appropriate pressure testing of all piping and tanks for leakage to assure specified standards are met.

(k) Fire protection: Whenever fire protection is required, the water system shall be designed and constructed in accordance with recommendations of the Fire Underwriter's Insurance Services Office, the Department of Public Utility Control and the specified water utility that will eventually own the water system. No fire hydrants shall be permitted unless the community water system has at least 150,000 gallons of water in atmospheric storage.

(l) Service Pipes:

(1) The size, design, material, and installations of the service pipe shall conform to the reasonable requirements of the utility that will eventually own the water system; provided, however, that the minimum size of the pipe shall be not less than 3/4-inch and that the use of non-metallic pipe shall include a suitable tracer wire for pipe location;

(2) All service pipes shall be installed below the frost line to prevent freezing;

(3) Service pipes shall not be connected to hydrant branch lines, and they shall not cross intervening properties even with the protection of easements. If fire protection to the customer's property is required, there shall be a separate service connection and separate service pipe paralleling the domestic service pipe to the customer's place of consumption;

(4) The service pipe shall be connected to a single-service corporation at the main, installed with a suitable gooseneck and be sufficiently flexible to prevent fracture from expansion or contraction. It shall be run perpendicular from the water main to the customer premises and be free from any tee, branch connection, irregularity or defect;

(5) The service pipe shall be installed with a suitable shutoff valve and curb box at the property line. There shall also be a suitable shutoff valve at the interior of the premises. In the case of service pipes dedicated for fire protection, there shall be a detector check meter installed on the pipe;

(6) No physical connection between the distribution system of a public water supply and any non-public water supply is permitted except as provided for in Section 19-13-B37 of the Regulations of Connecticut State Agencies;

(7) A separate service connection shall be required for any dwelling unit or office unit that is adaptive to individual ownership. Thus, an application for a Certificate of Public Convenience and Necessity for the following types of projects must include provisions for installing a separate service connection for each dwelling or commercial unit: residential subdivisions, including homeowners associations and municipal tax districts; cluster housing projects; duplexes; townhouses; residential and office condominiums; industrial parks; shopping centers or malls; trailer or mobile home parks; elderly housing projects and garden apartment complexes. Projects that may or may not require individual service connections, and subject to the Department of Public Utility Control's judgement, include high rise apartment complexes, multi-storied homes, commercial buildings and high rise condominiums;

(8) Each service connection shall be separately metered. The service line in each dwelling or office unit shall contain two ball valves and an American Water Works Association-certified meter adaptive to a remote reading device setting. The water utility which will eventually own the water system shall be responsible for providing the water meters to each customer premise at its own expense.

(m) Pumphouse requirements:

(1) Well pit and/or pumphouse construction shall be designed to prevent the entrance of rodents and other small animals. All facilities shall be locked and fenced and otherwise protected and secured to prevent entrance of unauthorized persons;

(2) Adequate drainage of all well houses and pits including the use of floor drains shall be provided as required in Public Health Code Regulation 19-13-B51h;

(3) Necessary electrical controls shall be installed to enable both manual and automatic operation of all pumps, motors and accessory equipment. All controls must be clearly labeled as to their function. All electrical wiring, controls and appurtenances shall be installed in conformance with the National Electrical Code;

(4) Flow meters capable of measuring totalized and instantaneous flow shall be installed to accurately measure independently each source of supply and their installation shall provide for ease of meter reading, repair and/or removal. Additional meters may be required where water treatment and/or other conditions dictate;

(5) Water treatment, when required, shall be installed in accordance with procedures established by the Department of Health Services;

(6) Smooth end (e.g. threadless chrome) sampling taps shall be installed on the discharge line of each well and at a representative point(s) off the discharge pipe(s) coming from the storage tank(s). Where treatment is used, taps before and after treatment facilities shall also be installed. Taps shall be at least 12 inches above the finished floor and any possible high water level. Taps must point downward;

(7) Suitable over and under voltage protection shall be provided on the various electrical equipment;

(8) The waterworks facilities shall be provided with suitable lighting, heat and ventilation. If necessary, a dehumidifier shall be used during summer operations;

(9) The pumphouse, wells and other plant facilities should be accessible to the various maintenance vehicles.

Section 16-262m-9. Financial, Managerial, and Technical Qualifications Criteria

(a) If the Department of Public Utility Control and Department of Health Services determined that a main extension is not feasible or no utility is willing to extend such main, and that no existing regulated public service or municipal utility or regional water authority is willing to own, operate and maintain the final constructed water supply facilities as a non-connected, satellite system, and if it is not feasible to install private individual wells, the applicant may continue forward with the application by satisfactorily providing the following additional information:

(1) A description of the applicant's business organization along with certified copies of the executed documents or any authority granted pursuant to Section 2-20a of the General Statutes of Connecticut;

(2) Certified copy of most current 12-month balance sheet and income statement of proposed owner of water system including a statement of current assets and liabilities;

(3) Copy of most current income tax return of proposed owner of water system;

(4) Indicated source of financial resources that would be used to fund the daily operations and any needed future capital improvements;

(5) Describe the financial ability of the proposed owner of the water system to provide a continuous, adequate and pure supply of water in routine and emergency situations including a pro forma cash flow statement for one year starting immediately after construction is completed;

(6) Describe the annual budget formulation process;

(7) Indicate the name, address, and qualifications of person/company who will be responsible for the budget preparation and administration;

(8) Describe the controls that will be in place to keep operations within budget and the sanctions or consequences that there will be for budget overruns;

(9) Indicate the name and address of person responsible for filing tax returns and annual audit reports;

(10) Indicate the name and address of person(s)/company(s) who will be responsible for routine operations including maintenance, customers billing and collections, repairs, emergency service and daily management;

(11) Describe the planning process to be implemented and assignment of responsibilities to provide for future needs of the customers including a program for routine system maintenance and the increase of future supplies as may be necessary;

(12) Describe the technical background and experience of the proposed operator including any membership in professional water industry organizations;

(13) Furnish a signed agreement or contract under which the proposed operator will serve, including guarantees of continuous long-term operation;

(14) Indicate the name and address of person/company who will manage the water system if different from operator;

(15) If there will be a business manager, in addition to the operator, describe his or her qualifications;

(16) Describe the governing board, its background in utility business governance and the decision making process of the management entity;

(17) List items which the operator will be responsible for and those which the manager will be responsible for;

(18) A plan for conducting cross-connection investigations including identification of the personnel capable of conducting cross-connection inspections;

(19) A plan (including the procedures, methods, schedule and location) for conducting required sampling, testing and reporting regarding: (A) water quality testing; (B) pressure testing; (C) production metering; (D) customer meter testing; (E) ground water monitoring purusuant to Section 19-13-B102(n) of the Regulations of Connecticut State Agencies;

(20) A plan for maintenance of the system;

(21) A plan for the maintenance of required records including at least:

> (A) service area maps; (B) water quality, pressure, metering and other tests; (C) emergency procedures; (D) metering; (E) energy use; (F) chemical use; (G) water levels; (H) production and consumption; (I) customer complaints; (J) non-revenue water; (K) all financial records;

(22) A plan for operator safety;

(23) A plan for leak detection;

(24) A plan for long range conservation including supply and demand management practices;

(25) A plan for action and proper notification of authorities in the event of an emergency;

> (A) As used above, "emergency" means any hurricane, tornado, storm, flood, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, drought or fire, explosion, electrical outage, toxic spill or attack or series of attacks by an enemy of the United States causing, or which may cause, substantial damage or injury to civilian property or persons in the United States in any manner by sabotage r by the use of bombs, shellfire or atomic, radiological, chemical, bacteriological or biological means or other weapons or processes.

(26) Estimated itemized cost of water facilities to be constructed or expanded.

(b) In addition to the above requirements, the Department of Public Utility Control shall be furnished the proposed owner's plans for the following:

(1) Preparation of adequate rules and regulations for providing water service, including termination of customers for non-payment of bills;

(2) Preparation and administration of a proper metered rate schedule and the rates themselves;

(3) A procedure for handling customer complaints;

(4) A procedure for meter reading and accurate billing of customers;

(5) A listing in the local telephone directory of an emergency and general inquiry telephone number for the customers.

Purpose: The purpose of these regulations is to allow the Department of Public Utility Control and the Department of Health Services to implement jointly the provisions of General Statutes of Connecticut §16-262m, which was enacted to address the difficulties associated with the construction or expansion of small water systems, such as inadequate construction and financing, which ultimately leads to inadequate levels of service provided by such water companies.

These Regulations are intended to restrict the proliferation of new small water systems, to promote good public utility practices, to encourage efficiency and economy, to deliver potable water in accordance with applicable health standards, and to establish minimum standards to be hereafter observed in the design, construction and operation of waterworks facilities of new small water systems and on which existing community water systems should base their future plans should they choose to expand. The Certificate of Public Convenience and Necessity assures town governments that community water systems will operate in accordance with the general requirements and applicable minimum standards of Sections 16-11-50 through 16-11-97, inclusive and Sections 19-13-B32, 19-13-B51, 19-13-B46, 19-13-B47 and 19-13-B102 of the Regulations of Connecticut State Agencies.

Including financial review in permitting process

States can improve water quality and the financial health of communities and small systems by providing technical assistance during the early part of the small system planning process. This assistance can range from informational materials about the costs of compliance with the SDWA amendments and the importance of full cost pricing to development of a standardized form for determining the financial health of a proposed system.

Given the tremendous resources that will be needed by small systems to comply with the 1986 SDWA amendments, it is imperative that State programs consider systematic reviews of the financial, technical, and managerial strength of proposed new public water systems.

Documents to be reviewed might include:

- a description of the certified operator, business manager, and bookkeeper;
- engineering plans according to State design standards;
- an outline of the budget process;
- financial reports such as a current income statement and balance sheet; and
- projected operation and maintenance expenses, including monitoring, sampling, and analysis, and projected revenues.

In addition to the analysis of financial records, some States require proposed systems to provide some kind of security to serve as a source of funding in case of emergency. For example, Maryland requires new privately owned systems to establish two escrow accounts, one each for the replacement of the highest cost treatment unit and for initial O&M costs, as well as a sinking fund to pay for the replacement of the system in 20 years. More information on Maryland's security requirements is located in Appendix E.

Developing criteria to determine new system viability

Requiring financial, technical, and managerial information is only the first step in analysis of a proposed system's ability to comply with the SDWA requirements. State drinking water programs should consider developing guidelines by which to evaluate the long-term viability of proposed systems.

Guidelines should include the evaluation of key indicators of financial health, such as liquidity, solvency, long-term planning, and debt retirement plans.

EPA and its contractor, The Cadmus Group, Inc., have published an excellent series of four handbooks on financial self-assessment of water systems for privately- and publicly-owned systems, home owners associations, and mobile home parks.[1]

The mere existence of the permit review process may cause systems to improve their operations and finances voluntarily. The knowledge that they must provide financial information can encourage marginal systems to assess their capabilities and seek alternative arrangements without the need for State involvement.

Including the Department of Public Utilities (DPU) in the permitting process

Several State drinking water programs have established formal relationships with their Department of Public Utilities (DPU) or Public Utilities Commission (PUC), agencies which carry out financial analyses routinely as part of their rate-setting processes.

Formulating a Memorandum of Understanding (MOU) between the two agencies can be a good mechanism for mutual acknowledgement of the small system problem and the parties' shared interest in and responsibility for devising a solution to this problem.

Several State drinking water programs are drafting or have already signed such interagency MOUs. Officials in these States believe that the process of drafting the MOU has been helpful in fostering a sense of shared purpose and mission regarding the provision of safe drinking water. Sample MOUs from California and Connecticut are included in Appendix F.

1.Document numbers EPA 570/9-89-011 through /9-89-015.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
REQUIREMENTS
PROPOSED PRIVATELY-OWNED WATER SYSTEMS

These requirements have been developed by the Maryland Department of the Environment (MDE) as a result of our observation that, for privately-owned water systems, plant operation and maintenance problems which increase over time, can be mitigated if the following requirements are met. These requirements have been established to assure that, with proper operation and maintenance of the system, consumers enjoy a safe and adequate supply of drinking water, now and in the future.

For those water systems which a county intends to purchase and/or operate, please send a copy of the appropriate public works agreement to Mr. William Parrish, Program Administrator, Water Supply Program, Water Management Administration, 2500 Broening Highway, Baltimore Maryland 21224. For publicly-owned systems, some of the financial requirements may be omitted from the public works agreement if the county believes that its existing financial plan accommodates new systems and if sufficient funds will be available throughout the life of these systems to assure safe and adequate supplies of drinking water for all consumers.

Requirements:

1. The project must be described and shown in the county Water and Sewerage Plan with the appropriate service area category designation.

2. A water appropriation permit must be obtained from the Water Resources Administration (Maryland Department of Natural Resources) with a copy of same submitted to the Water Supply Program (MDE).

3. A well construction permit must be obtained from the Residential Sanitation Division (MDE). Call Mr. Raymond Ludlow at (301)631-3654 regarding procedures.

4. A financial management plan must be submitted to the Water Supply Program. Call Mr. Barry O'Brien at (301)631-3706 regarding these procedures for MDE review and approval. This plan must detail estimated operating costs and the revenues required to support these costs.

5. An agreement must be developed and executed between the Water Management Administration and the owner of the proposed water system. The agreement must provide for deposit into an escrow account of funds sufficient to cover the repair or replacement of the highest-cost water treatment plant unit. In addition, a separate deposit account must be established to provide for sufficient funds for the initial operation and maintenance of the system. This account will remain in effect until operating costs are completely supported by income. Finally, the agreement must provide for establishing an account sufficient to fund the replacement of the system in 20 years from the date of initial operation. This financial assurance requirement is a condition of COMAR 26.04.03 "Water Supply and Sewerage Systems in the Subdivision of Land in Maryland" and may include such guarantees of equal protection as may be requested by the

applicant. Attached is a copy of such an agreement. Mr. O'Brien can discuss this with you further.

6. An operation and maintenance plan must also be prepared and submitted to the Division of Design Review (MDE). Call Dr. Ta-shon Yu at (301)631-3757 for review and approval.

7. A State construction permit must be obtained from MDE for the installation of the system. Call Mr. John Stewart at (301)631-3767 regarding procedures.

After the State construction permit has been issued, there are two additional requirements which must be met prior to commencing the actual operation of the new system:

A. A water treatment plant superintendent and operator, certified in the appropriate classification by the Board of Waterworks and Waste System Operators, must be employed prior to plant start-up to operate the plant. Call Mr. Oktay Ertugrul at (301)631-3167 for details of this program.

B. Plans must be made for compliance with the monitoring and reporting requirements of COMAR 26.04.01 "Quality of Drinking Water in Maryland " before start-up of the plant.

C. A final inspection of the system and approval to operate must be made by MDE before the system is placed in service. Call Mr. O'Brien at (301)631-3700 at least two weeks in advance to schedule the final inspection.

Appendix E

THIS AGREEMENT made this ______ day of ______ of the year Nineteen Hundred and Eighty-Seven (1987) by and between Kimberwood Corporation, hereinafter called the "Developer" and the DEPARTMENT OF THE ENVIRONMENT of the State of Maryland, hereinafter called the "DEPARTMENT".

WHEREAS, the developer is the owner of certain property located in Queen Anne's County, Maryland, more particularly described by the Subdivision Plats of Bay View at Kent Narrows, intended to be recorded among the Plat Records of Queen Anne's County, Maryland hereinafter called the "Property"; and

WHEREAS, Developer is interested constructing certain structures on the Property which will be served by a community water system to be constructed on the Property, which will be initially owned by Kimberwood Corporation, later to be owned by Bay View at Kent Narrows Condominium Association, Inc., which shall be comprised of all owners of the Property; and

WHEREAS, COMAR 10.17.03.04 of the Department's regulations entitled Water Supply and Sewerage Systems in the Subdivision of Land In Maryland requires that departmental approval be conditioned upon compliance with the financial and ownership requirements determined to be necessary to assure the continued, efficient, and effective operation of the system.

WHEREAS, the Department has determined that the financial assurances set out in this Agreement and the attached Financial Management Plan (Exhibit 1), which are incorporated by reference as if set forth herein, are necessary to assure compliance with the above regulations.

NOW, THEREFORE, this Agreement witnesses that, the Developer in consideration of these requirements and the Department's approval of its attendant community water system, hereby agrees to bind itself, its heirs, successors and assigns as follows:

1. To construct a water treatment system in accordance with the plans and specifications approved by the Department.

2. To properly maintain and operate the water system to serve the proposed development in order to protect the health, safety and welfare of the general population living in the area and also the residents and guests on and about the property.

3. To properly maintain and operate the water system in accordance with all the applicable regulations, laws and standards of the Department and other appropriate agencies.

4. That prior to the signing of the proposed plats and/or recordation of same, the Developer will secure a bond for $18,600. This bond shall be designated as the Water System Emergency Reserve Bond, as shown in Exhibit 1, Appendix C.

The value of the bond will be maintained so that it guarantees the equivalent cost of repair or replacement of the most expensive piece of equipment of the Water Treatment System. The replacement costs of all major pieces of equipment will be reviewed annually to confirm that replacement costs are guaranteed and the value of the bond will be adjusted to reflect any revised repair/replacement cost estimates. Adjustments shall be made within 60 days of the review of replacement costs. In the event of the failure of the Developer to repair or replace any equipment, the bond shall be utilized to perform all work necessary to return the Water Treatment System to operating condition. If this bond is drawn upon, the amount drawn shall be replaced within 90 days.

5. That Water System Emergency Reserve Bond shall only be used to pay for repairs or improvements to the water system and not for ordinary operation maintenance. The Developer shall notify the Department of any use of this bond.

6. That prior to placing the water treatment system in operation, the Developer shall create an operation and maintenance bond in the amount of $4,500.00, as shown in Exhibit 1, Appendix B. The purpose of this bond is to insure that the water supply system will have sufficient minimal funds for the operation and maintenance of the water system.

7. . That prior to approval of the development, the Developer shall establish by restrictive covenants, running with the land, as part of a general scheme of development, the obligation of each owner of a condominium to pay an annual fee into the water supply system reserve fund. This fund shall provide an amount sufficient to replace the water system 20 years after initial construction. The annual assessments established pursuant hereto shall constitute a lien on all property affected. The Developer shall similarly establish the obligation of each owner to pay an annual assessment into the water supply system operation and maintenance fund sufficient to meet all operation and maintenance costs.

8. When, as stipulated in the Bay View at Kent Narrows Condominium Association, the obligations and rights of the Developer shall automatically transfer to Bay View at Kent Narrows Condominium Association and/or the Council of Unit Owners of the condominium(s)) and shall be assumed by and inure to the benefit of such entity, the Developer shall thereupon be discharged from further obligations under this Agreement.

9. If the Developer fails to make repairs or improvements required for proper maintenance and operation of the water system, the posted bonds and/or reserve funds may be utilized at the option of the Department and used to effect such repairs or improvements. The water system reserve fund shall be restored to the original balance within 90 days by the Developer upon any such withdrawal required to make such repairs or improvements.

10. Upon assumption of ownership of the system by a public utility, the funds and bonds (as established in paragraph 4 and paragraph 7) shall be abolished and all deposits shall be received by the Developer, his assignee, or the Bay View at Kent Narrows Condominium Association for its use.

11. Nothing herein shall be construed to limit the liability of the Developer for any costs of repairs or improvements for which he is responsible by law. Any and all other remedies that the Department may have at its disposal, including the revocation of any permit or approval, shall be strictly preserved. Any entry for inspection, repairs or improvements shall not be considered trespass, and permission to do so is hereby granted irrevocably.

12. The Department may transfer its rights and obligations under this Agreement to any other public agency authorized to carry out such functions and specifically may transfer the Agreement to Queen Anne's County. The Developer may transfer its rights and obligations under this Agreement to any purchaser of the Property, in the event that the Developer itself does not develop the property.

13. The Developer, its successors and assigns, shall remain subject to all applicable provisions of law regulating the operation and maintenance of water facilities.

14. The Developer shall cause this Agreement to be recorded among the Land Records of Queen Anne's County and this Agreement shall be noted upon the subdivision plats of the property.

15. The Developer further agrees that in addition to its personal liability this Agreement shall run with the land and be binding on all persons having or acquiring any rights, title or interest in said property, or any part thereof.

16. That the Developer shall additionally in any other Declaration of Covenants it may execute with regard to the proposed condominiums, incorporate directly or by reference the provisions of this Agreement.

Appendix E

17. In the event that the requirements of any provision of substance is not complied with, the plat approval may, at the option of the Department, be declared null and void and the Department may take appropriate judicial action to have said plat expunged from the land records.

AS WITNESS the hands and seals of the parties herein the date and year first about written.

______________________ BY: ______________________
DATE
Jack B. Dietrich, President
KIMBERWOOD CORPORATION

______________________ WITNESS: ______________________
DATE

______________________ BY: ______________________
DATE
Richard B. Sellars, Jr., Director
Water Management Administration
DEPARTMENT OF THE ENVIRONMENT

Approved as to form and legal sufficiency
this 8th day of September, 1987

Nancy [illegible]
Assistant Attorney General

Appendix F

MEMORANDUM OF UNDERSTANDING

DEPARTMENT OF HEALTH SERVICES
and
PUBLIC UTILITIES COMMISSION

ON MAINTAINING SAFE AND RELIABLE WATER SUPPLIES FOR REGULATED WATER COMPANIES IN CALIFORNIA

The Department of Health Services (DHS) and the Public Utilities Commission (PUC) recognize that it is their joint goal to ensure that California water companies regulated by PUC are economically maintaining safe and reliable water supplies. This Memorandum of Understanding (MOU) sets forth those policies and procedures to which DHS and PUC commit themselves towards achievement of that goal.

OBJECTIVES

The common objectives of the program, as they relate to public water systems subject to regulation by PUC and DHS, are as follows:

1. To monitor the systems to assure that safe and reliable water supplies are being maintained in accordance with applicable drinking water standards.
2. To identify contaminants and determine system improvements, including alternatives, necessary to provide safe and reliable water supplies.

3. To assure that system improvement projects, necessary to upgrade supplies to meet standards, are selected on the basis of priority and only after reasonable alternatives have been defined and ~~and~~ cost-effective analyses performed to arrive at a cost-effective solution.

4. To establish mutually agreed upon priorities for necessary system improvements.

PRINCIPLES OF AGREEMENT

For the purpose of this agreement, DHS and PUC agree that their staffs shall abide by the following principles:

1. To the extent its resources permit, DHS shall be responsible for evaluating and determining all technical aspects of monitoring water quality and identifying contaminants, and for identifying the various potential improvements necessary to provide safe and reliable water supplies. DHS will also recommend its preferred solution. PUC shall be responsible for evaluating fire flow requirements and for making recommendations on the financial and rate making aspects associated with implementing the improvements identified by DHS to provide safe and reliable water supplies.

2. The staffs of the two agencies shall endeavor to keep each other fully informed of their respective activities and to assist each agency in carrying out its responsibilities.

3. Both agencies shall exchange all information available regarding water companies that are experiencing water quality and/or water availability problems. The information about the problems should include, but is not limited to:

   a. All communications with utilities;
   b. Orders;
   c. Decisions;
   d. Regulations and Policies;
   e. Proposed new water systems;
   f. Permits; and
   g. Reports, investigations, etc.

4. The PUC will notify DHS of all requests for rate increases from public water systems and shall routinely provide DHS with schedules of hearings. DHS will provide technical input to PUC as necessary and appropriate in PUC proceedings. This may include testimony before the PUC.

5. Identified system improvements necessary to provide safe and reliable water supplies should consider:

   a. Protection of public health;
   b. Short and long term benefits;

c. Cost effectiveness;

d. Cost to customers; and

e. Ability of customers to pay.

6. Each agency shall endeavor to provide appropriate assistance in necessary enforcement actions taken against individual water systems.

AGENCY RESPONSIBILITIES

The intent of this MOU is to identify the separate and distinct responsibilities of DHS and PUC. The following represents a general description of the roles and responsibilities of each of the respective agencies relating to water companies under PUC jurisdiction. Each agency agrees to adopt and implement policies and procedures necessary to administer its respective duties. These policies and procedures shall be coordinated between the agencies.

1. DHS shall be responsible for the following:

   a. Evaluation of public water systems to identify public health deficiencies and determine compliance with the Safe Drinking Water Act.

   b. Identification of alternative cost effective corrective actions necessary to upgrade water supplies to meet standards, and recommendation of its preferred solution.

c. Review and approval of plans and specifications and issuance of domestic water supply permits for improvements.

d. Inspection of water quality improvement projects both during and after construction, and sharing project status reports with PUC.

e. Participation at appropriate PUC public meetings with customers and/or evidentiary hearings where water quality matters raised by DHS or any other person are to be discussed.

2. PUC shall be responsible for the following:

a. Determination of the type of rate relief needed to finance necessary system improvement projects for other than Safe Drinking Water Bond Act loan projects, which by existing policy are required to be paid off by a surcharge on customer bills.

b. Arrange public meetings with customers and/or evidentiary hearings to ensure that customers are made aware of the need for system improvement projects and the impacts the projects will have on rates.

c. Promptly inform DHS of PUC public meetings with customers and/or evidentiary hearings where water quality problems will be discussed so that DHS may prepare and participate.

d. Provide analyses of the financial impacts, if any, of system improvement projects on both customers and water companies.

PROJECT COORDINATION

1. DHS and PUC will designate project managers for their respective agencies when water quality and/or water availability problems exist and an improvement project is necessary. The project managers will be the principal contact persons for their agencies on a particular project.

2. Whenever a potential conflict regarding a specific project is identified, each agency will examine the alternative solutions available for upgrading water supplies and then meet to thoroughly discuss the issues involved and attempt to come to an agreement before announcing a position. If an agreement can not be reached after consultation between the Chief of the Sanitary Engineering Branch of DHS and the Chief of the Water Utilities Branch of PUC, DHS and PUC staff may advocate separate positions. Notwithstanding such disagreements, this MOU shall remain in effect.

3. There should be a complete exchange of information between DHS and PUC through the project managers. Each agency will set forth where and to whom material shall be sent. Copies of all correspondence between an agency and other parties concerning a water system improvement project shall be sent to the project manager of each agency until project completion.

4. The Chief of the Sanitary Engineering Branch of DHS and the Chief of the Water Utilities Branch of PUC, with designated members of their staff, shall meet as necessary but at least semi-annually to review progress of the water quality improvement effort in California and resolve any issues which have been identified by staff.

AMENDMENTS

This MOU may be amended by mutual agreement of DHS and PUC. It shall remain in effect until DHS and/or PUC decide otherwise.

Approved:

Director
Department of Health Services

Date: February 9, 1987

Approved:

Executive Director
Public Utilities Commission

Date: December 9, 1986

MEMORANDUM OF UNDERSTANDING
AMONG
THE DEPARTMENT OF ENVIRONMENTAL PROTECTION,
AND
THE DEPARTMENT OF HEALTH SERVICES,
AND
THE DEPARTMENT OF PUBLIC UTILITY CONTROL
OF THE STATE OF CONNECTICUT

PURPOSE

This Memorandum of Understanding (MOU) provides a common set of guidelines for water companies and other parties who are required to prepare either water conservation plans or emergency contingency plans. The purpose of this Memorandum of Understanding is to avoid overlap and redundancy in requirements and authority of the signatory agencies in water conservation issues and emergency contingency plans. This Memorandum links the requirements of the Department of Environmental Protection (DEP), the Department of Health Services (DOHS) and the Department of Public Utility Control (DPUC) for these two areas of their responsibility under one set of commonly agreed upon guidelines and establishes a process of coordination, review and approval.

As a result of a 1988 DPUC docket on water conservation, a program to retrofit state buildings with water conservation devices, revisions to the State Building Code, and legislation (Public Act 89-327, An Act Establishing a Water Resources Policy; Public Act 89-303, An Act Concerning Minimum Efficiency Standards for Plumbing Fixtures; and Public Act 89-266, An Act Establishing a Residential Water Saving Program) the Governor and the General Assembly have established a clear policy direction concerning the important role of water conservation in water management. Pursuant to Public Act 89-377, an Act Establishing a Water Resources Policy, the Department of Environmental Protection, the Department of Health Services and the Department of Public Utility Control hereby establish this Memorandum of Understanding.

APPLICATIONS

Pursuant to Public Act 89-377 four sections of the Connecticut General Statutes are covered by this Memorandum of Understanding. In addition, three sections of the Connecticut State Regulations are included in this Memorandum of Understanding pursuant to Section 4-8 of the Connecticut General Statutes.

Statutes Included in MOU

- Sec. 16-19(a) (DPUC) - Plans for promoting water conservation required in conjunction with a water company rate case;
- Sec. 16-32e(b) (DPUC) - Plans by water companies for restoring service which is interrupted as a result of an emergency;
- Sec. 22a-369(9) (DEP) - The long-range water conservation plan of an applicant for a diversion permit, including contingency measures for limiting water use during seasonal or drought shortages;

- **Sec**. 25a-32d(b) (DOHS)- Water company water supply plans - vulnerability assessment and contingency procedures for public drinking water supply emergencies; an analysis of the impact of water conservation practices and a strategy for implementing supply and demand management measures.

Regulations Included in MOU

- Sec. 16-262m-9(a)(24) (DPUC & DOHS) - Long-range conservation plan, including supply and demand management practices required pursuant to issuing joint Department of Health Services and Department of Public Utility Control Certificate of Public Convenience and Necessity;
- Sec. 19-13-B102(s) (DOHS) - Conservation requirements of the State Public Health Code, including a program to reduce the amount of water which cannot be accounted for;
- Sec. 22a-430a-3(o) (DEP) - Holders of a wastewater discharge permit are to maintain practices and facilities which result in the minimum amount of wastewater discharged utilizing such methods as water conservation, resource recovery, waste recycling or wastewater reuse.

INTERAGENCY COORDINATIONCOMMITTEE FOR WATER CONSERVATION AND EMERGENCY CONTINGENCY PLANS

There is established an Interagency Coordination Committee for Water Conservation and Emergency Contingency Plans composed of an agency representative designated by the Commissioner of the Department of Environmental Protection, the Commissioner of the Department of Health Services, the Chairman of the Department of Public Utility Control, the Consumer Counsel of the Office of Consumer Counsel, and the Secretary of the Office of Policy and Management. The Office of Policy and Management shall chair the Committee. This Interagency Coordination Committee shall be utilized to facilitate discussion of issues which are critical to the signatory agencies, to resolve disputes relating to the statutes and regulations within the purview of this Memorandum of Understanding and to monitor and recommend improvements to the Guidelines and their implementation. The goal of this process is to have either a water conservation plan or an emergency contingincy plan, which is submitted to one agency and reviewed by each of the signatory agencies and through the interagency review process, as described below, be acceptable to all of the signatory agencies in any regulatory proceedings under their respective jurisdictions.

IMPLEMENTATION

This Memorandum of Understanding is implemented through guidelines for water conservation plans and emergency contingency plans which serve as instructions to water companies, industrial/commercial/institutional water users, and agricultural water users in the preparation of these plans. Both this Memorandum of Understanding and the Guidelines are hereby adopted by the Department of Environmental Protection, the Department of Health Services, and the Department of Public Utility Control. The guidelines are divided into four separate documents:

-Water Conservation Plans prepared by Water Companies;
-Emergency Contingency Plans prepared by Water Companies;
-Water Conservation and Emergency Contingency Plans prepared by Industrial/Commercial/Institutional Water Users;
-Water Conservation and Emergency Contingency Plans prepared by Agricultural water users.

A proposed water conservation or emergency contingency plan (or a component of an application which comes under the purview of this Memorandum) will be submitted to the specific state agency from which regulatory approval is being sought. The state agency then will forward a copy of the plan to the other signatory agencies for review and comment. The signatory agencies will each have 60 days from receipt of a plan or a component to determine the adequacy of the proposal and to submit comments to the regulatory agency for its consideration for incorporation into a letter of deficiency. In addition, a signatory agency may submit minor comments to the regulatory agency for forwarding to the applicant for information purposes only. If the regulatory agency finds either that as a result of its review or the review by the other signatory agencies that significant deficiencies do exist in the plan or a component of a plan, the regulatory state agency will prepare a draft letter of deficiency and will forward it to the signatory agencies for review prior to submittal to the applicant. If no comment is received by the regulatory agency from the other signatory agencies within 15 working days from the date the draft letter of deficiency was sent by the regulatory agency, it will be assumed that there is no objection to the contents of the letter of deficiency and then it may be issued with the requirement that the applicant address the concerns raised therein.

If a signatory agency feels that its comments were not adequately incorporated into the draft letter of deficiency; are within its areas of jurisdiction; and are of a critical nature, the commenting agency then shall inform the regulatory agency in writing within 15 working days from the date that the regulatory agency sent the draft letter of deficiency of its specific objections with the content of the letter of deficiency.

Staff from the regulatory agency and staff from the specific commenting agency will then meet to come to a resolution as to the importance of having the signatory agency's comments addressed by the applicant. If no agreement is reached by the staffs of the agencies, the matter will then be referred to the Interagency Coordination Committee to facilitate discussion, if the commenting agency wishes to do so.

In reaching a concensus on the adequacy of a proposed plan in question, the Interagency Coordination Committee will be guided by the following general areas of statutory jurisdiction. The Department of Environmental Protection has jurisdiction over: the conservation of water by wastewater discharge permittees; providing for the prevention and abatement of water pollution; the amelioration of seasonal shortages of water; and providing for the coordination and management of the state's water resources to assure their protection, enhancement, proper allocation and utilization. The Department of Health Services has jurisdiction over the purity, adequacy and safety of public water supplies, plant and systems; and such other matters as may affect public health. The Department of Public Utility Control has jurisdiction over investor owned water company financing, system operations and the cost effectiveness of plans and programs. None of the signatory agencies will hold up another agency's regulatory process unless there is a major outstanding issue. The object of this process is to have close coordination between the signatory agaencies so that issues are resolved to each agency's satisfaction.

REGULATORY APPLICATION

Each of the participating agencies shall consider any approved water conservation and/or emergency contingency plans, as applicable, in all related regulatory activities. Plan approval does not preclude or bind the outcome of specific administrative proceedings for permits required under the Regulations of Connecticut State Agencies or the Connecticut General Statutes. A water user who comes under the purview of the statutes listed in this Memorandum of Understanding shall implement all approved plans in compliance with all applicable state agency regulatory programs and statutory requirements.

It is the intention of the signatory agencies that only the sections of a plan pertinent to its jurisdiction shall be considered for official comment by it, when a plan prepared pursuant to this Memorandum of Understanding is utilized to fulfill a requirement in one of the above-referenced statutes or regulations. The intent of this Memorandum of Understanding is to eliminate duplication of effort, reduce overlapping authorities and ensure regulatory consistency at the state level.

TIMEFRAME FOR MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding is effective from the date of signing by these three agencies and will remain in force for the signatory agencies until amended or revoked by them. However, any plans submitted as a result of the above statutes and regulations during the six months from the signing of this Memorandum of Understanding, will not have to be in conformance with their pertinent guidelines during this grace period. The Memorandum of Understanding may be revoked at any time by written notification from any signatory to the other signatory agencies.

COORDINATION

Any changes in statutes which would affect this Memorandum of Understanding and/or accompanying Guidelines will be taken into consideration by the three signatory agencies and through the coordination of the Office of Policy and Management will result in any modifications to the Memorandum and/or in the Guidelines as would be appropriate. Periodically, the Interagency Coordination Committee will evaluate and recommend improvements to the review process and the Memorandum of Understanding.

Restructuring options to overcome diseconomies of scale

This section will focus on various solutions to these diseconomies of scale. As in any enterprise, the cost of a good or service per unit is generally less the larger the size of the purchase. Small systems cannot purchase in large amounts, so they pay relatively high unit prices. Similarly, the larger the customer base, the lower the cost per customer of a particular purchased item. But by definition, small systems have a small customer base, so the effect of costs on water rates is relatively higher than for larger systems.

The three solutions listed below address these problems of diseconomies of scale:

1) Contract operation and management (O&M)
2) Cooperatives
3) Mergers and acquisitions

By **contracting out for O&M services**, a small water system may enjoy the economies of scale already achieved by a firm that provides O&M to many clients. In **cooperatives**, several small systems buy goods or services jointly, decreasing their per-unit costs by increasing the size of their purchases. In a **merger or acquisition**, the small system becomes part of a larger system, taking advantage of the economies of scale achieved by the acquiring entity.

Defining the terms

Contract operations and management: A contractual arrangement whereby a small water system buys services from a larger entity, either another private or public system or a private company. No transfer of assets is involved. Contract O&M is also referred to as satellite management, third-party operator, service contract, privatization, or turn-key operation.

Cooperative: A group of small systems can join together (formally or informally) to purchase goods or services cooperatively (e.g. sharing a certified operator). If the systems create a new, independent entity to perform this function, the entity is called a "cooperative."

Mergers and acquisitions: A merger or acquisition occurs when a water system (either publicly or privately owned) assumes ownership of another water system. Mergers and acquisitions do not necessarily involve the physical interconnection of the systems involved; however, they do involve the transfer of assets.

A. Contract O&M (a.k.a. satellite management)

Many small systems lack the necessary trained personnel to monitor or report the concentrations of regulated contaminants or to maintain and repair system equipment. In such cases, professional help may be obtained by contracting for O&M assistance. Services covered can include: routine maintenance, monitoring and reporting, managerial services, or system improvements.

Because their operations do not require constant attention, small systems often do not need full-time operators. Therefore, instead of hiring full-time operators themselves, small systems can contract with private service companies to obtain certified operators on an as-needed basis.

Private water service companies are the leading providers of O&M contracting, but capable municipal systems should also be encouraged to provide such services.

Contract O&M is most effective when small systems need trained operators to manage daily operations or perform routine monitoring and reporting functions. Small systems with more severe problems should consider other options, such as mergers or acquisitions.

States should approve the plans for satellite arrangements before they are initiated to be sure they conform to operating permit requirements. During this review, the State can ensure that the satellite owner or manager will correct small system problems in a timely fashion. In addition, States can promote satellite management and ownership by providing grants or low-interest loans to water systems that conduct satellite planning and assessment.

Incentives for contract O&M

States can provide several incentives for systems to enter into contract O&M arrangements:

1. **Provide a sample O&M contract**, with appropriate language, to facilitate the establishment of such agreements. A sample of such an agreement can be found in Appendix H.

2. **Inform and educate larger water systems of contracting opportunities**. For example, many large municipal systems have their own certified microbiological laboratories at which they do coliform and VOC testing. Such labs should be encouraged to sell their services to smaller systems. Informational materials could be developed and distributed at the time of lab (re)certification.

3. **Maintain a registry of qualified certified operators** who can provide services to systems that do not need full-time operators.

4. **Modify agency policies** to require an entity (such as a hospital or school) that is part of an existing PWS and that wants to install its own treatment to contract the associated services to its existing public water supplier. The existing PWS, usually a municipality, would be required to charge its true, full cost of providing these services (treatment, monitoring, management). Such an arrangement would avoid the proliferation of new small systems, simplify compliance tracking, and be economically beneficial to both parties.

Appendix I contains case studies of contract O&M arrangements.

Liability issues with O&M contracting

Liability can present an obstacle to small water systems that seek contract O&M services from private companies or large water utilities. States normally hold system owners accountable for MCL or M/R violations; however, if the owners have contracted for operator services, the contract operator may be held liable.

States can modify their regulations to avoid liability disputes. Oregon recently modified its regulations to state that contract operators must recommend all necessary changes to maintain or bring about system compliance, thus shifting compliance responsibility back to the systems. If a system fails to adopt the operator's recommendation, it will be responsible for any resulting violations. Contractor operators can be held liable if they have been negligent; they are responsible for the accuracy of their work, but system owners are responsible for implementing changes to maintain compliance.

A primacy agency could also recommend that the parties involved in satellite management arrangements incorporate an indemnification clause in their contracts to prevent liability disputes. The sample contract in Appendix H contains such a clause.

B. Cooperatives

By joining together, small systems can achieve greater economies of scale and reduce the unit prices of their purchases at little or no cost to the systems or the primacy agency. Examples of goods and services that may be purchased more cheaply include: operation and maintenance services, laboratory services, chemicals, and equipment.

In addition to the cost savings that might be achieved by such arrangements, an additional feature of cooperatives is the forum they create for sharing knowledge and expertise about regulations, pricing, and solutions to common problems.

The simplest type of cooperative purchasing may result from a larger system helping a small system, to the mutual benefit of each. Because large systems have the ability to purchase in bulk at a lower per-unit cost, they could sell some of their materials to a small system at a price higher than their original cost (so they make a profit) and yet at a price still lower than that which the small system would be paying if it purchased the item separately (so the small system saves money).

Water system cooperatives are most appropriate for systems that are structurally sound. For these systems, cooperatives can be an effective way of reducing costs. However, if a system is only marginally viable because of major technical, financial, or managerial deficiencies, then mergers and acquisitions may be a more appropriate option.

Formation of a water cooperative requires that significant effort be devoted to management. If there is an informal purchasing arrangement, it will depend on the voluntary contributions of time from its members to get quotes from vendors, place orders, and deliver the goods. Members who do not do their share will lose their right to participate. Small system owners and operators are often independent; because of this, some systems fear delegating responsibility to an organization that it cannot completely control. This may limit the feasibility of cooperatives among some systems.

Incentives for cooperatives

The most effective mechanism for encouraging cooperative purchasing is through the dissemination of information about available options and their successful implementation in other areas.

In addition, specific cooperative purchasing arrangements can be encouraged. For example, the tests for the new total coliform rule are significantly cheaper when bought in large quantities. As part of its informational process for the new total coliform rule, a State drinking water program could encourage larger municipal and private systems to purchase extra tests and sell them to small systems.

C. Mergers and acquisitions

A merger or acquisition occurs when a publicly- or privately-owned water system assumes ownership of another system. The entities that are acquired or merged can be either privately or publicly owned. The new systems that result have a larger customer base, increased access to capital, and eligibility for State grant and loan funds (usually only if the acquiring entity is a public system). A typical example is a municipal water system acquiring a small, privately owned system outside its service boundaries. Other case studies of both private and public mergers and acquisitions are located in Appendix J.

Mergers may result from the State primacy agency's requirements, or they may result from a system's plans to expand its service area. Although the regulations vary from state to state, public mergers, acquisitions, and the formation of new public systems generally require approval by the primacy agency.

The terms of private mergers are usually reviewed by either the primacy agency or the State's PUC. Primacy agencies review proposed mergers to determine whether the new system will comply with operating permit requirements. Similarly, PUCs review proposals before granting operating permits, conducting hearings to determine if the acquisition is in the public interest, to set rates, and to determine whether acquisition costs should be recovered through rate increases.

State regulation of voluntary mergers can ensure that they are an effective way of addressing small system problems. Voluntary private mergers and acquisitions usually occur when the private companies involved determine that financial restructuring is advantageous for both companies involved. A recent study of voluntary private acquisitions showed that the acquiring company is usually motivated by the wish to expand its customer base and service area.[1] The acquired system usually wishes to get out of the water service business.

Sometimes voluntary action is not enough. There may be conditions under which the State must compel involuntary mergers and acquisitions, for example, when a small system is in gross violation of standards and is financially incapable of correcting the problems.

Under existing drinking water statutes, most States do not have the authority to mandate the takeover of a non-compliant system. However, recent Connecticut legislation gives the State the authority to compel involuntary mergers or acquisitions under specific conditions. Pennsylvania recently passed a bill which gives the State PUC the authority to order a capable public utility to acquire a small system that the commission has determined to be nonviable. More information on the Pennsylvania takeover provisions can be found in Appendix K.

Incentives for mergers and acquisitions

The State program should work with its advisory committee to determine how best to encourage and facilitate mergers and acquisitions. States must create financial incentives for municipal systems to acquire smaller systems, otherwise they will be unable to gain support for legislation requiring the takeover of financially troubled systems.

Devising an appropriate financial incentive will require the input of numerous interested parties. Possible financial incentives could include:

- reduced interest rates from State bond authorities on bond issuances by municipalities whose water system agrees to acquire a troubled smaller system;

- State tax credits for private utilities that agree to acquire or merge with another system;

- reduced or waived fees by the drinking water program.

Massachusetts' Department of Environmental Protection is working on a new fee-for-services program which, because it exempts municipal systems, is itself an incentive for smaller systems to merge with a public system. The program's proposed fees -- for example, an annual compliance fee of up to $4500 per system -- may deter smaller systems from remaining independent and encourage them to merge or be acquired by an existing municipal system.

If coordinated with the primacy program, reviews by the Public Utility Commission can help ensure that a merger or acquisition will alleviate the problems the small system faced prior to restructuring. However, most State PUCs do not have jurisdiction over all sizes and types of public water systems. Therefore, this type of cooperation may be limited to certain system categories. As mentioned in the previous section on financial viability, State drinking water programs may find the development of an interagency Memorandum of Understanding with the PUC will facilitate this process.

1. Patrick Mann, G. Richard Dresse, "Commission Regulation of Small Water Utilities: Mergers and Acquisitions," NRRI, Chapter 4.

EXHIBIT A

MEMORANDUM OF AGREEMENT

This agreement is between Waterguard, Inc. (Waterguard) and

Statement Of Intent - It is the intent of this agreement for Waterguard to provide and to receive the professional services of a part time state-certified Class I water system operator (Operator). Only the services described in this Agreement or those later appended by written mutual consent are incorporated in this Agreement. This Agreement is intended to assist in its basic compliance with Oregon state laws and regulations pertaining to minimum operating standards for community water systems.

RESPONSIBILITIES

Waterguard - Waterguard will provide and supervise the services of an Operator who possesses a valid Class I certificate of competency issued by the State of Oregon. The Operator will perform or provide for the performance of water system services as mutually agreed upon and authorized under State of Oregon Class I Water Distribution certification. Such services are limited to those necessary to consistently satisfy the minimum health standards of the State of Oregon for community water systems. The basic Operator services mutually agreed upon as of the date hereof are itemized in the ensuing section entitled "Specific Services". The services will be provided on a mutually agreed-upon schedule. Additional services may be added to this Agreement from time to time by written consent of Waterguard and .

____ - as owner of the water system will provide guidance and direction to the Operator to the extent necessary for timely decisions and direction on any action, expenditure or work needed to keep the system in compliance with State health standards for community water systems.

agrees to take whatever steps are required by federal and state law and Oregon Health Department regulations to keep the system in compliance with all current and future community water system minimum standards.

agrees that the physical plant, assets, liabilities and legal obligations connected with the ownership and operation of the system are its exclusive responsibility and not that of the Waterguard or Operator.

acknowledges that insurance coverage desired by in connection with this Agreement, including but not limited to errors and omissions coverage, will be the responsibility of .

SERVICE FEES

Waterguard - will pay $40.00 per hour exclusive of travel time, for the Operator's services. Waterguard agrees to itemize its charges and bill monthly for Operator services. Billings shall be in one-quarter hour increments.

Continued

- will pay all agreed upon Waterguard billings for Operator services within 30 days of receipt.

will periodically review the Operator's work, reports and recommendations and promptly advise the Operator of any changes in the scope or nature of services it desires.

HOLD HARMLESS AGREEMENT

Indemnification - will hold harmless and indemnify Waterguard, and its officers, agents, and employees against any claim, liability, or expense incurred by Waterguard arising out of its work under this agreement, except to the extent that the claim, liability or expense arises out of alleged negligent or intentionally wrongful actions or failures to act of Waterguard or its officers, agents or employees.

EXCLUSIONS

LABORATORY SERVICES - All laboratory charges for testing, analysis or evaluation of the quality/quantity of the system's water will be in addition to the fees mentioned in this Agreement.

SYSTEM REPLACEMENT, OPERATION AND REPAIR COSTS - all system replacement, operation and repair costs will be the responsibility of Villa.

SPECIFIC SERVICES

The Operator will advise on the requirements necessary to keep the system in compliance with all laws and regulations. The Operator will perform or provide, consistent with reasonable and customary standards, all basic community water system operational and management services required to keep the system in compliance with the following requirements as well as any other requirements arising out of laws or regulations hereafter existing:

1. Responsibilities Of Water Supplier as required by OAR 333-61-025 (attached);
2. Maximum Contaminant Levels as required by OAR 333-61-030 (attached);
3. Sampling And Analytical Requirements as required by OAR 331-61-035 (attached);
4. Reporting, Public Notification And Record Keeping as required by OAR 333-61-040 (attached);
5. Construction Standards as required by OAR 333-61-050 (attached);
6. Plan Submission And Review Requirements as required by OAR 333-61-060;
7. Operation And Maintenance as required by OAR 333-61-065 (attached);
8. Cross Connection Control Requirements as required by OAR 333-61-070 (attached);
9. Fluoridation as required by OAR 333-61-085 (attached);
10. Product Acceptability Criteria as required by OAR 333-61-087 (attached).

Continued

Memorandum Of Agreement (continued)

The OAR Chapter 333 sections listed above and any subsequent changes made to them are by this reference included in and made a part of this agreement.

DESIGNATION OF OPERATOR

Waterguard hereby designates Don Weidner as the Operator to perform the services described in this agreement. Waterguard agrees to notify in writing and obtain written agreement prior to making any changes in its Operator designation.

ADDITIONAL SERVICES

This Agreement may be modified, expanded or limited at any time by the written mutual consent of both and the Waterguard. Notice of a proposed change will be given by the proposing party to the other party at least 30 days prior to the effect of the proposed change.

OFFICIAL CORRESPONDENCE

Waterguard and agree to designate an official address and telephone number to which each may send all official communications to the other. Both parties to this agreement will promptly advise the other of any changes in addresses and phone numbers.

TERMINATION OF AGREEMENT

This Agreement can be terminated by either party with 30 days written notice to the other party. Waterguard will be paid for all services provided to hereunder prior to receipt of notice of termination or to such later date as the notice may specify.

EFFECTIVE DATE

This agreement will be effective as of

Signed ______________________________

____
Title

Signed ______________________________
Date

____
Title

WATERGUARD, INC--O&M CONTRACTING

SUMMARY: Waterguard demonstrates how small systems in Oregon use O&M contracting to obtain regulatory advice, routine testing, and maintenance work, as well as financial analysis, rate-setting advice, and bookkeeping.

To found Waterguard, the owner obtained a list of the regulated systems in Oregon, targeted the ones serving fewer than 300 connections, and sent them flyers announcing the services he could offer. A few systems responded immediately, but not until the mandatory certification law was passed did Waterguard acquire a substantial number of clients. Waterguard currently has contracts with 32 systems, of which about half are mobile home parks. The rest include educational institutions and sub-divisions. The average size of a mobile home park served by Waterguard is approximately 100 connections, while the average size of a sub-division is approximately 50 connections.

Waterguard offers a wide variety of services to small water systems. The company performs routine maintenance, monitoring and reporting (for bacti and turbidity), and system repairs. It also provides management services such as financial analysis, rate-setting advice, and bookkeeping. Furthermore, Waterguard will help small systems comply with new State drinking water regulations. For example, the firm will write the annual report that State law requires from each operator. Waterguard also provides emergency assistance.

When Waterguard is hired by a small water system, both parties sign a Memorandum of Agreement. An example of the Memorandum is provided in Appendix A.

On average, Waterguard charges its systems $90.00 per month for routine O&M.

FOR INFORMATION CONTACT:

Jim Boydston, Manager
Drinking Water Program, Health Division
1400 S.W. 5th Avenue, Rm. 611
Portland, OR 97201
503-229-6310

WASTEWATER SERVICES, INC.--O&M CONTRACTING

SUMMARY: Wastewater Services is another example of an O&M contracting company used by small systems to improve compliance with SDWA and State regulations.

Wastewater Services was created 13 years ago by a certified operator to provide contractual assistance to small public water systems. Currently, Wastewater Services has 30 employees and has contracts with approximately 20 systems in western North Carolina. Most of the contracts are with systems that have fewer than 150 connections.

Wastewater Services offers a wide variety of services to small systems, but it [illegible] performs monitoring and reporting. Wastewater Services has a laboratory to provide testing for bacteriological and inorganic contaminants. Additionally, if systems need infrastructure work, the company has a construction section. Wastewater Services does not, however, provide financial services such as rate-setting or bookkeeping advice.

The fees depend on the services provided. The average cost of a certified operator who will be responsible for routine O&M functions is $250 per month.

FOR INFORMATION CONTACT:

Bob Barr
Wastewater Services, Inc.
P.O. Box 18029
Asheville, NC 28814-0029

CROSBY WATER AND SEWER SERVICES, INC.--O&M CONTRACTING

SUMMARY: Crosby Water and Sewer Services is an example of how a mobile home park owner became a certified operator and created a business providing O&M services to other nearby system owners.

Crosby Water and Sewer Services was created by a mobile home park owner who had experienced difficulty in operating her water system. After she became certified, a few neighboring systems informally asked her for assistance. In 1985, she and her husband decided to start a water and wastewater service business. Today, they assist approximately 19 wastewater and 19 water systems. The company consists of four full-time certified operators who serve systems within a 35-mile radius, mainly in Wake County. Most of Crosby's contracts are with mobile home parks and housing developments that have an average size of 75 service connections.

According to Crosby, each customer has a unique set of service requirements. In general, they provide monitoring, reporting, and routine maintenance work. There is at least one system that they completely manage. For this system they read meters, handle customer billing, and perform routine O&M work. Crosby also provides emergency assistance to any system it serves. There is a 24-hour answering service that systems may call when a problem arises. Before Crosby performs any major work, it makes recommendations and obtains approval from the system. The firm usually is authorized to incur up to $100 in costs without seeking approval.

Crosby's fees depend on the services performed. For routine O&M work, it charges approximately $100 per month. For a system that it completely manages, Crosby charges $550 per month.

FOR INFORMATION CONTACT:

Don Williams
Regional Engineer, Drinking Water Division
Fayetteville, NC
919-486-1191

SOUTHERN NEW HAMPSHIRE WATER COMPANY–SATELLITE MANAGEMENT

SUMMARY: Southern New Hampshire Water Company is an example of a large water utility providing O&M services to a small municipal water system through a satellite management program.

In late 1989, Southern New Hampshire Water Company and Derry Waterworks entered into a satellite management arrangement. Southern New Hampshire is a large utility that provides water to many cities in southern New Hampshire. Derry Waterworks is a small municipal system that wanted to contract out for O&M services. Previously, Derry used private service companies for O&M services. This year, however, Southern New Hampshire had the lowest bid for services and was awarded the contract.

Southern New Hampshire provides Derry with operations and maintenance services. A contract between the two companies specifies the services to be rendered. These include: providing a certified operator; performing daily operations; reading meters; performing sampling, monitoring, and reporting; and implementing backflow prevention. Derry performs all other system functions.

Southern New Hampshire Water Company charges an hourly fee. Information on specific fees is confidential.

FOR INFORMATION CONTACT:

Larry Gingrow
Southern New Hampshire Water Company
322 Nashua Rd.
Londonderry, NH 03053
603-882-3322

PUBLIC UTILITY DISTRICT NO. 1 OF KITSAP COUNTY–SATELLITE MANAGEMENT

SUMMARY: Public Utility District No. 1 of Kitsap County is an example of a small Homeowner's Association contracting with a large public water system for a comprehensive system assessment.

Public Utility District No. 1 of Kitsap County, Washington is a public water system which serves approximately 4,[illegible]00 people. As a PUD, the system has jurisdiction over the entire county and is able to borrow money, contract indebtedness, issue bonds, and levy taxes. Currently, the PUD owns and operates a number of small water systems in the county and has just begun to provide contract O&M services.

The Sandy Hook Community Club, a Homeowner's Association in Poulsbo, Washington recently contracted with PUD No. 1 for a comprehensive assessment of its water system. Sandy Hook needs assistance in determining what system improvements should be made in order to deliver better water quality to its 75 residences. PUD No. 1 was contracted to do the following: document above-ground problem areas; evaluate the steel main and water services to determine approximate conditions below ground; revisit the source and storage locations to evaluate the physical and mechanical operations; and prepare a report detailing findings and recommendations to resolve system deficiencies. The contract is short-term; the services will be completed within 45 days of the final signature date. Once the assessment is completed, Sandy Hook may agree to have the PUD perform the necessary improvements. It may also agree to have the PUD assume long-term management of the system.

All labor and professional hours will be billed hourly. All materials and equipment that the PUD uses in executing the contract will be billed at cost plus 10 percent for handling. The contract stipulates that the total cost of services cannot, however, exceed $500.00.

FOR INFORMATION CONTACT:

David Siburg, Assistant Manager
PUD No. 1 of Kitsap County
1431 Finn Hill Road
Poulsbo, WA 98370
206-779-7658

WASHINGTON COUNTY SANITARY DISTRICT–PUBLIC ACQUISITION

SUMMARY: The following case study shows how a State can require a public merger as a way of solving small system problems. In this case study, a municipal water system extension was ordered by the primacy agent to provide safe drinking water to residents outside the boundary of the publicly owned water system.

Maryland requires each county to develop a plan of its water systems' operations, including satellite programs and mergers. The State also has the statutory authority to require a public water system to be constructed or for an extension to occur.

In 1981, residents of the Martin's Crossroads-Cearfoss area of Washington County experienced an outbreak of Hepatitis A due to bacteriological contamination. After determining that water quality problems could not be corrected by the existing systems, the Maryland Department of Environment (MDE) ordered Washington County to develop a feasibility study for extending water service from the City of Hagerstown water system to the Martin's Crossroads-Cearfoss area, to develop a construction schedule, and to implement the extension by a specified date. The Martin's Crossroads-Cearfoss area contained 218 homes at the time of the order.

The county plan examined all options for complying with the order and determined the most cost-effective method of meeting current and expected future water demand. This plan was then submitted to MDE prior to system extension. Funds for [illegible] were provided from user fees, Washington County general revenues, and the State [illegible] Facilities Fund. The area was included in the county plan as a sanitary subdistrict, and all customers in the designated area were required to hookup to the water system. The cost of water service for the new customers was equivalent to that paid by the city's original customers.

FOR INFORMATION CONTACT:

William F. Parrish, Jr.
Water Supply Program, MDE
Point Breeze, Bldg. 40, Rm. 8
2500 Broening Highway
Dundalk, MD 21224
301-631-3702

LAKEWOOD VILLAGE--FORMATION OF A PUBLIC SYSTEM

SUMMARY: The Lakewood case shows how the formation of a publicly-owned water system can allow small systems to finance needed system improvements. After obtaining a FmHA loan, the Lakewood system interconnected to and purchased water from a neighboring municipal water system.

Lakewood Village is a subdivision containing approximately 500 single-family homes; it is located two miles south of Des Moines, Iowa. Lakewood's developer sunk a deep well to provide water to the community because interconnection with existing systems was not feasible. The water contained high levels of dissolved minerals and was corrosive. Residents complained about staining of clothes, deterioration of plumbing fixtures, periodic water outages, and declining property values as the result of poor water quality. Because of high costs, the owners of the subdivision did not fully treat the water and were often before the public utilities commission, contesting water rate adjustments with the residents.

In 1981, some of Lakewood's residents proposed forming a "benefited water district" and purchasing the system from the developer. Under Iowa law a "benefited water district" is a quasi-public entity with its own taxing and bonding authority. As a public system, Lakewood would be able to purchase water from the Des Moines Water Department, eliminating the well and, hence, the source of the problem. After the residents submitted a petition, the County Board of Supervisors held hearings and formed the District without objection.

In a special election, three trustees were chosen and given, by simple majority vote, the authority to incur debt on behalf of the district. [redacted] The trustees negotiated a purchase price with system owners with funds from a $500,000 FmHA loan at 5 percent simple interest. To repay the debt, homeowners agreed to a special ten-year assessment equally apportioned to each house owner. The newly formed Lakewood Benefited Water District negotiated the wholesale purchase of water from the City of Des Moines, ensuring a plentiful source of high-quality water. Lakewood Village water rates were established at approximately 1.5 times the rates paid by Des Moines residents.

By forming a benefited water district and buying their system from a developer no longer interested in the water business, Lakewood Village obtained better water and eliminated problems that had plagued the system for almost 20 years, while retaining local control.

FOR INFORMATION CONTACT:

Dennis Alt, Department of Natural Resources
Environmental Protection Division
900 East Grant Street
Des Moines, IA 50319

NORTH LAKEPORT–FORMATION OF A NEW PUBLIC WATER SYSTEM

SUMMARY: North Lakeport demonstrates how a county can take the initiative to consolidate existing small water systems by forming a regional system.

The North Lakeport project is located in Lake County, California, and has a population of fewer than 50,000 people. The county has a considerable number of small resorts, mobile home parks, and subdivisions that have their own water systems. Prior to 1981, the county had a limited regulatory program for small water systems, most of which did little or no treatment. The county had concerns about the quality of the finished water these systems provided.

In November of 1984 and 1986 the voters of California approved the Safe Drinking Water Bond Laws, which provided $150 million of low-interest loans and grants for water system construction needed to correct public health problems. The California Department of Health Services identified North Lakeport as a potential area for a regional water system and the County Special District Office was invited to submit an application for funding. To prepare the application and define the essential projects, the county hired an engineering firm to conduct a feasibility study, which was completed in June of 1985. The study recommended forming a regional system that would consolidate the 41 existing small systems and individual homes which had inadequate water quality; the Lakeside Community Hospital; the County's Juvenile Hall detention facility; four new residential developments; and the County's planned minimum-security prison for 500 prisoners.

On the basis of the engineering feasibility study the county's application was completed and the State of California made a commitment to provide $5 million in low-interest loans and a $400,000 grant. Having the necessary funding and technical details, the county initiated proceedings to form an assessment district to assure that the State loan could be repaid. Several public meetings were held to discuss the details of the project and its costs. The County Health Department maintained that small systems would need to make significant and costly improvements in order to comply with regulations and ensure adequate water quality. The voters in the county decided that forming a regional system was the least costly solution and the district was approved in October 1989. The construction of the new regional system began in January 1990.

FOR INFORMATION CONTACT:

B. David Clark, P.E.
District Engineer
Office of Drinking Water
Santa Rosa District Office
50 D Street, Room 205
Santa Rosa, CA 95404
707-576-2729

ACQUISITION OF GREENACRES WATER SUPPLY–PRIVATE MERGERS

SUMMARY: The Greenacres case study shows the combined efforts of the PUC and primacy agency to require a takeover in order to alleviate water systems non-viability.

Greenacres Water Supply had difficulty complying with a DOHS order to submit a plan for improvements to enhance water quality and increase water supply. Greenacres' owners did not have the resources to comply with the order and notified DOHS that they wanted to leave the water business. DOHS asked DPUC to conduct a hearing about the system. During the hearing, two water companies, Bridgeport Hydraulic Company (BHC) and Tyler Lake Water Company, expressed interest in purchasing and operating Greenacres as a satellite system. Although the owners of Greenacres and Tyler Lake negotiated a purchase price of $10,000 for the system, the Consumer Counsel opposed the price as excessive. After examining the financial records of Greenacres and considering the improvements that the system required, DOHS and DPUC determined that Bridgeport Hydraulic was a "more suitable entity" to own and operate Greenacres.

The joint decision addressed several points raised during the proceedings. The examination of Greenacres' financial records and the cost estimates for the system upgrade revealed that a reasonable acquisition cost was only $617, primarily because of the large outstanding debt that the acquirer would have to assume and the poor condition of the system. BHC was ordered to spread the cost of system improvements (estimated at $191,000) among its 96,000 customers in order to reduce the financial burden of the upgrade on the Greenacres customers. The approved acquisition costs, not including the original net cost of the plant, was required to be charged to a deferred debits account for amortization over four years. DOHS and DPUC decided to allow BHC to include unamortized acquisition costs in its rate base, as the company had requested.

DOHS and DPUC ruled that Greenacres customers should be billed at their old rate until all the residences had been metered. Then BHC could bill them at the same rate as its other customers in the area. BHC was also given a schedule for system improvements and was required to submit certain financial information to DPUC. The company was also required to notify the Greenacres customers of its ownership.

Connecticut's takeover legislation allowed the State to facilitate acquisition by a privately owned utility to correct the problems of a non-viable system. The State acquisition hearing on Greenacres determined the following: who should take over the failing system; the acquisition cost; what system improvements must be undertaken by the acquiring system; and what rates the customers of the acquired system should be charged.

FOR INFORMATION CONTACT:

Richard Albani
DPUC, Water Section
One Central Park Plaza
New Britain, CT 06051
203-827-1553

ACQUISITION OF HELMS, INC.–PRIVATE MERGERS

SUMMARY: The acquisition of Helms, Inc., a small privately-owned water system, by Connecticut Water Company (CWC) shows how the State primacy agent and the PUC can jointly order water systems to act as receivers, to implement specific system improvements on a time schedule, and to acquire other water systems.

Under Connecticut General Statutes 16-262, the Department of Health Services (DOHS) and the Department of Public Utility Control (DPUC) called a hearing to find a suitable water company to acquire the two divisions of Helms, Inc., Nathan Hale and Lakeview in Coventry, Connecticut. These two water systems had a history of repeated outages, and the owners of Helms, Inc. had failed to comply with seven Administrative Orders from DPUC and DOHS. These systems had severe engineering deficiencies, and had an old, poorly maintained system in need of reconstruction. No corrective action was being taken by the owners.

Helms, Inc. provided water to 169 unmetered residential customers and 10 seasonal customers. There were no treatment facilities at either Nathan Hale or Lakeview. The owners had difficulty maintaining contracts with licensed pump companies, resulting in periods during which no maintenance took place.

A temporary receiver had previously been appointed under CGS 16-262l, who incurred liabilities for the maintenance of the system. DPUC and DOHS subsequently recommended that the CWC acquire Helm, Inc. CWC was required to pay the receiver an amount equal to his liabilities; this amount was added to the cost of acquisition that CWC was allowed to recover through its rates.

Two years after the Joint Hearing, the former Helms customers were being charged a flat rate of $307.80 per year as stipulated in the Decision. When system upgrades are completed, customers will be metered and charged the same rate as all other CWC customers, which in 1988 was $315 per 72,000 gallons of water per household.

FOR INFORMATION CONTACT:

Richard Albani
DPUC, Water Section
One Central Park Plaza
New Britain, CT 06051
203-827-1553

Appendix Z

PRINTER'S NO. 27

THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE BILL

No. 25

Session of 1989

INTRODUCED BY LLOYD, BATTISTO, D. R. WRIGHT, NOYE, HALUSKA, GIGLIOTTI, VEON, HASAY, STABACK, KOSINSKI, G. SNYDER, E. Z. TAYLOR, KUKOVICH, BELFANTI, TIGUE, CAWLEY, STUBAN, ITKIN AND COLAIZZO, JANUARY 18, 1989

REFERRED TO COMMITTEE ON CONSUMER AFFAIRS, JANUARY 18, 1989

AN ACT

Amending Title 66 (Public Utilities) of the Pennsylvania Consolidated Statutes, providing for the commission to order the acquisition of small water and sewer utilities.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Title 66 of the Pennsylvania Consolidated Statutes is amended by adding a section to read:

§ 529. Power of commission to order acquisition of small water and sewer utilities.

(a) General rule.--The commission may order a capable public utility to acquire a small water or sewer utility if the commission, after notice and an opportunity to be heard, determines:

(1) that the small water or sewer utility is in violation of statutory or regulatory standards which affect the safety, adequacy, efficiency or reasonableness of the service provided by the small water or sewer utility;

(2) that the small water or sewer utility has failed to comply, within a reasonable period of time, with any order of the Department of Environmental Resources or the commission concerning the safety, adequacy, efficiency or reasonableness of service, including, but not limited to, the availability of water, the potability of water, the palatability of water or the provision of water at adequate volume and pressure;

(3) that the small water or sewer utility cannot reasonably be expected to furnish and maintain adequate, efficient, safe and reasonable service and facilities in the future;

(4) that alternatives to acquisition have been considered in accordance with subsection (b) and have been determined by the commission to be impractical or not economically feasible; and

(5) that the rates charged by the acquiring capable public utility to its preacquisition customers will not increase unreasonably because of the acquisition.

(b) Alternatives to acquisition.--Before the commission may order the acquisition of a small water or sewer utility in accordance with subsection (a), the commission shall discuss with the small water or sewer utility, and shall give such utility a reasonable opportunity to investigate, alternatives to acquisition, including, but not limited to:

(1) The reorganization of the small water or sewer utility under new management.

(2) The entering of a contract with another public utility or a management or service company to operate the small water or sewer utility.

(3) The appointment of a receiver to assure the

provision of adequate, efficient, safe and reasonable service and facilities to the public.

(4) The merger of the small water or sewer utility with one or more other public utilities.

(5) The acquisition of the small water or sewer utility by a municipality, a municipal authority or a cooperative.

(c) Factors to be considered.--In making a determination pursuant to subsection (a), the commission shall consider:

(1) The financial, managerial and technical ability of the small water or sewer utility.

(2) The financial, managerial and technical ability of all proximate public utilities providing the same type of service.

(3) The expenditures which may be necessary to make improvements to the small water or sewer utility to assure compliance with applicable statutory or regulatory standards concerning the adequacy, efficiency, safety or reasonableness of utility service.

(4) The expansion of the franchise area of the acquiring capable public utility so as to include the service area of the small water or sewer utility to be acquired.

(5) Any other matters which may be relevant.

(d) Order of the commission.--Subsequent to the determinations required by subsection (a), the commission shall issue an order for the acquisition of the small water or sewer utility by a capable public utility. Such order shall provide for the extension of the service area of the acquiring public utility.

(e) Acquisition price.--The price for the acquisition of the small water or sewer utility shall be determined by agreement between the small water or sewer utility and the acquiring capable public utility, subject to a determination by the commission that the price is reasonable. If the small water or sewer utility and the acquiring capable public utility are unable to agree on the acquisition price or the commission disapproves the acquisition price on which the utilities have agreed, the commission shall issue an order directing the acquiring capable public utility to acquire the small water or sewer utility by exercising the power of eminent domain pursuant to the act of June 22, 1964 (Sp.Sess., P.L.84, No.6), known as the Eminent Domain Code.

(f) Separate tariffs.--The commission may, in its discretion and for a reasonable period of time after the date of acquisition, allow the acquiring capable public utility to charge and collect rates from the customers of the acquired small water or sewer utility pursuant to a separate tariff.

(g) Appointment of receiver.--The commission may, in its discretion, appoint a receiver to protect the interests of the customers of the small water or sewer utility. Any such appointment shall be by order of the commission, which order shall specify the duties and responsibilities of the receiver.

(h) Notice.--The notice required by subsection (a) or any other provision of this section shall be served upon the small water or sewer utility affected, the Office of Consumer Advocate, the Office of Trial Staff, the Department of Environmental Resources, all proximate public utilities providing the same type of service as the small water or sewer utility, all proximate municipalities and municipal authorities providing the same type of service as the small water or sewer utility, and the municipalities served by the small water or sewer utility. The commission shall order the affected small water or sewer utility to provide notice to its customers of the initiation of proceedings under this section in the same manner in which the utility is required to notify its customers of proposed general rate increases.

(i) Burden of proof.--The Law Bureau shall have the burden of establishing a prima facie case that the acquisition of the small water or sewer utility would be in the public interest and in compliance with the provisions of this section. Once the commission determines that a prima facie case has been established:

(1) the small water or sewer utility shall have the burden of proving its ability to render adequate, efficient, safe and reasonable service at just and reasonable rates; and

(2) a proximate public utility providing the same type of service as the small water or sewer utility shall have the opportunity and burden of proving its financial, managerial or technical inability to acquire and operate the small water or sewer utility.

(j) Plan for improvements.--Any capable public utility ordered by the commission to acquire a small water or sewer utility shall, prior to acquisition, submit to the commission for approval a plan, including a timetable, for bringing the small water or sewer utility into compliance with applicable statutory or regulatory standards. The capable public utility shall also provide a copy of the plan to the Department of Environmental Resources and such other State or local agency as the commission may direct. The reasonably and prudently incurred costs of each improvement shall be recoverable in rates only after that improvement becomes used and useful in the public service.

(k) Limitations on liability.--Upon approval by the commission of a plan for improvements submitted pursuant to subsection (j) and the acquisition of a small water or sewer utility by a capable public utility, the acquiring capable public utility shall not be subject to any enforcement actions by State or local agencies which had notice of the plan and shall not be liable for any damages beyond the aggregate amount of $50,000, including a maximum amount of $5,000 per incident, if the cause of those damages or the basis of such enforcement action is proximately related to identified violations of applicable statutes or regulations by the small water or sewer utility. This subsection shall not apply:

(1) beyond the end of the timetable in the plan for improvements;

(2) whenever the acquiring capable public utility is not in compliance with the plan for improvements; or

(3) if, within 30 days of having received notice of the proposed plan for improvements, the Department of Environmental Resources submitted written objections to the commission and those objections have not subsequently been withdrawn.

(l) Definitions.--As used in this section, the following words and phrases shall have the meanings given to them in this subsection:

"Capable public utility." A public utility which regularly provides the same type of service as the small water utility or the small sewer utility to 4,000 or more customer connections, which is not an affiliated interest of the small water utility or the small sewer utility, and which provides adequate, efficient, safe and reasonable service.

"Small sewer utility." A public utility which regularly provides sewer service to 1,000 or fewer customer connections.

"Small water utility." A public utility which regularly provides water service to 1,000 or fewer customer connections.

Section 2. This act shall take effect in 60 days.

Appendix L

NEHA
Environmental Health Trends Report

Volume 3, Number 4 Fall Quarter 1989

Ensuring Safe Drinking Water

New Challenges for Local Health Officials

Passage of the 1986 Safe Drinking Water Act (SDWA) Amendments marked the dawn of a new era in the protection of America's drinking water. The amendments mandate a sweeping and comprehensive regulatory program to ensure the uniform safety of drinking water for all Americans served by public water systems, at home, at school, at work, or on the road.

The U.S. EPA Office of Drinking Water (ODW) recognizes the seriousness of the challenge it faces in turning the 1986 amendments into reality. To meet the challenge, ODW has undertaken a broad and far-reaching "Mobilization" effort. The basic concept behind Mobilization is expressed by the adage "Many hands make light work." Through Mobilization, ODW hopes to bring the talents and resources of all groups and organizations impacted by the drinking water requirements to bear on their implementation.

Local health officials are a key focus of the Mobilization effort, since they are in an excellent position to contribute to the implementation of the new drinking water requirements. In fact, local health officials are critical to the successful implementation of SDWA. This article is intended to provide local health officials with an increased awareness of the new drinking requirements, and an understanding of how they can best contribute to successful implementation.

Background

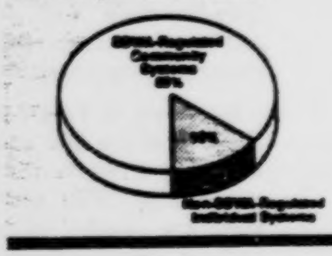
History of the National Drinking Water Program. Prior to 1974, the federal government possessed very limited regulatory authority, and most drinking water standards and practices were established by individual states. The first federal drinking water standards were adopted in 1914, but regulated only those suppliers serving interstate carriers, for example, passenger trains.

Because the nature and enforcement of state standards varied greatly, the U.S. Congress passed the original 1974 SDWA and established the federal Public Water Supply (PWS) Program. Administered by the U.S. Environmental Protection Agency Office of Drinking Water, the program regulates the quality of drinking water provided by the nation's public water systems. As shown in Figure 1, 85% of all Americans receive their drinking water from water systems subject to regulation under SDWA. The remaining 15% of the population are largely served by individual, private wells.

A major goal of the 1974 act was to provide uniformity and consistency to state regulatory efforts. Under a management system known as *primacy*, states are responsible for implementing and enforcing the PWS Program.

To achieve primacy, each state must adopt regulatory requirements at least as stringent as those promulgated by EPA and must have adequate authority to enforce the requirements. States may establish siting, design, construction, and operation requirements. Presently, the only states without primacy are Wyoming, Indiana, Indian Lands, and the

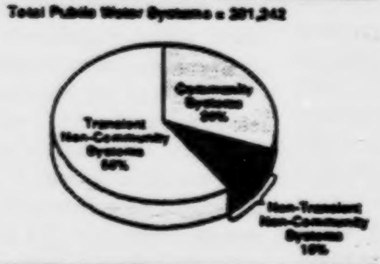
Figure 1.
U.S. population served by SDWA–regulated and non-regulated systems.



District of Columbia. The U.S. EPA is responsible for implementation and enforcement in nonprimacy States.

The nature of the regulated community. There are approximately 200,000 public water systems (PWSs) regulated under SDWA. A public water system is defined as any system providing piped water for human consumption, and serving 25 or more people or 15 or more service connections for at at least 60 days per year. As shown in Figure 2, there are three major categories of public water supply systems: community water systems; non-transient, non community water systems; and transient non-community systems.

Figure 2.
Regulated universe of Public Water Systems.



A community water system (CWS) provides water to the same people on a year-round basis. CWSs range in nature from large urban water systems to mobile home parks and nursing homes having their own supply source. Two-hundred and twenty-one million people receive their household drinking water from CWSs.

As shown in Figure 3, the vast majority of the U.S. population is served by a relatively small number of large CWSs, and these systems are capable of compliance without great difficulty. On the other hand, a minority (11 percent) of the population is served by a large number of small water systems. These small systems account for over 90 percent of the violations of current drinking water requirements.

Small and very small CWSs (those serving fewer than 3,300 persons), with their smaller and less dense service populations, have difficulty consistently delivering safe drinking water at affordable prices. These systems are characterized by low revenues, high user rates, poor financial capabilities, poor business and technical management, and a lack of engineering/planning knowledge. As shown in Figure 4, approximately 40 percent of small and very small CWSs are mobile home park and homeowner association systems. These two categories are particularly troublesome. Mobile home park systems are often neglected by park owners because water supply is not their principal business interest. Homeowner association systems are created for water supply provision when residential developments are isolated from larger CWSs. Unfortunately, homeowner associations lack the technical and managerial skills needed to effectively operate a water system

A non-transient, non-community water system (NTNCWS), unlike a CWS, does not serve a year-round population. Rather, it serves a daily average of at least 25 of the same individuals for at least six months out of the year. The most common types of NTNCWSs are factories and rural schools having their own well or other supply

Figure 3.
Community water systems size distribution.

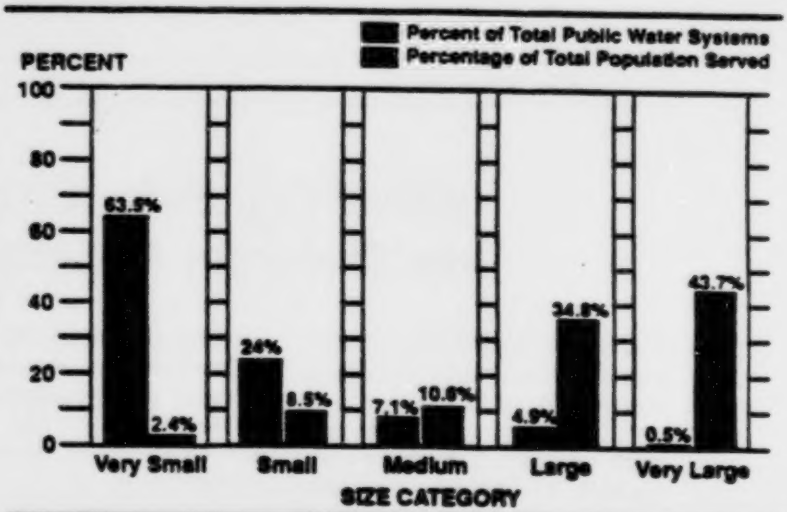
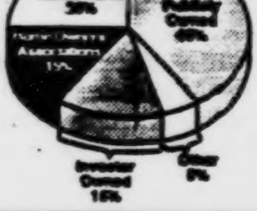


Figure 4.
Regulated universe of Community Water Systems.



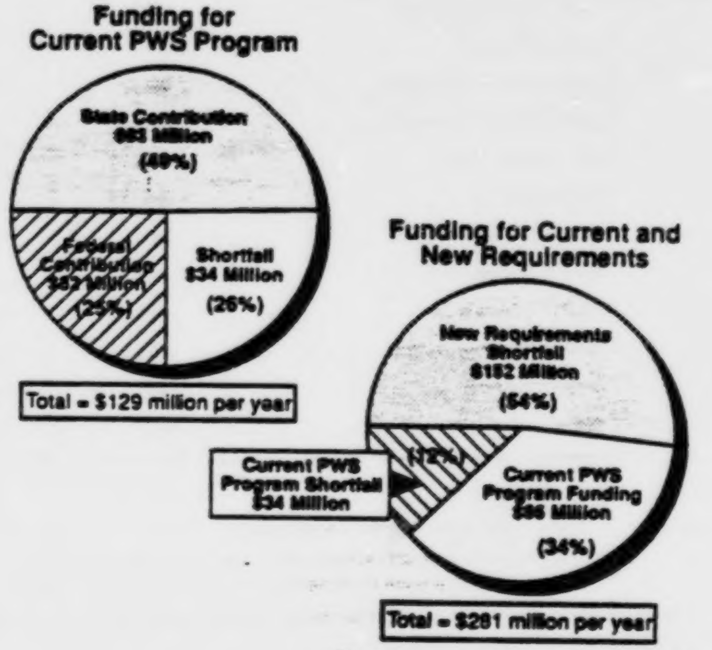
source. Historically, NTNCWSs were required to meet only those standards (nitrates and bacteria) required to prevent short-term health problems. As discussed in more detail later, these systems are now required to meet the same standards as CWSs since their service populations consist of long-term users.

A transient non-community water system (TNCWS), like a NTNCWS, does not serve a year-round community population. Unlike a NTNCWS, it serves a transient population of at least 25 individuals daily, that is, the system does not serve the same 25 or more individuals on a long-term basis as do schools and factories. The most common kinds of TNCWSs include rest stops, restaurants, gasoline service stations, campgrounds, and park facilities. Unlike CWSs and NTNCWSs, TNCWSs are required to meet only those standards designed to prevent short-term health problems.

Roles and responsibilities in the current PWS program. The ultimate goal of the drinking water program is to prevent endangerment to human health resulting from the contamination of drinking water supplies. This mission requires intense cooperation among U.S. EPA, state primacy agencies, and the regulated community. Each has a well-defined and vital role in the regulatory process.

EPA is responsible for establishing regulations and policy for national program oversight. States are responsible for implementing and enforcing the national regulations as well as carrying out their own programs of plan review, technical assistance, and operator certification.

Figure 5.
State shortfall of funds necessary to implement the Public Water Supply Program.



*For the new requirements, and additional $180 million dollars in one-time costs is also necessary.

Local water suppliers are responsible for constructing, operating, and maintaining public water systems capable of compliance with all federal, state and local regulations.

The State Drinking Water Program capacity problem. As will be discussed in the next section, EPA is developing numerous new regulations in response to the mandate of the 1986 SDWA Amendments. To retain primacy, states will have to adopt and enforce these new regulations. State Drinking Water Program budgets must more than double to support this new work.

States currently spend about $95 million per year. Of that amount, states contribute two-thirds and federal grant dollars constitute the remainder. Figure 5 indicates that states need an additional $34 million per year just to implement the current requirements. In addition, implementation of the 1986 Amendments will cost the states $180 million in one-time costs through 1992, and will lead to an increase in annual costs of $150 million per year after 1992. Dramatic increases in federal subsidies are unlikely, thus states must build support to substantially increase their drinking water budgets.

Is the public's drinking water safe? Recently, EPA's enforcement of drinking water requirements has been criticized by some as insufficient. Such allegations have

Figure 6.
Drinking Water Regulatory Development Schedule.

Contaminant/Requirement	*Final Rule***	*Effective Date****
Fluoride	4/86	10/87
Lead Ban (SDWA 1417)	6/86	6/86
Phase 1 Volatile Organics	6/87	1/89
Public Notification	10/87	4/89
Lead Ban Policy Guidance	9/88	3/89
Surface Water Treatment Rule	6/89	12/90
Total Coliform Rule	6/89	12/90
Lead/Copper	1990	1991
Phase II 38 Contaminants	12/90	6/92
Phase III Radionuclides	1991	1993
Phase IV Disinfection	1992	1994
Phase V 25 Contaminants	1991	1992
Phase VI 1st list	1991	1993
2nd list	1994	1996

* As of June 1989

** All dates after January 1990 are estimated.

*** EPA Rules are generally effective 18 months after being finalized. State rules are required to be adopted by the EPA effective date.

received considerable media coverage over the past year. As a result, citizens have confronted their water suppliers and local health departments to determine whether such problems exist locally.

EPA's compliance data (the same data upon which the negative allegations are based) indicates that America's drinking water is very safe. In 1987 and 1988, 75 percent of the 60,000 CWSs met all drinking water regulations all of the time. More than 180 million Americans received their water from systems in full compliance. Of the 41 million people whose CWSs violated the regulations at least once, only about 10 percent were served by systems with significant compliance problems. Most systems that experienced compliance problems, corrected those problems within one month. In most cases, they simply failed to test their water for contaminants, and were not in direct violation of a health standard. For large systems that must test hundreds of samples each month, missing even a single sample is recorded as a violation.

Small and very small systems are the most frequent violators. In 1988, small system violators outnumbered larger violators by 11 to 1. Also, the greatest percentage of violators are not located in the continental U.S., but are located in Guam, the Virgin Islands, and other Territories.

The New Program

Since the passage of the original Safe Drinking Water Act (SDWA) in 1974, and up through 1985, U.S. EPA adopted National Primary Drinking Water Regulations (NPDWRs) for 26 contaminants. In 1986, SDWA was comprehensively amended to greatly increase the scope and stringency of the PWS Program and the national drinking water regulations. Figure 6 displays the schedule for regulatory changes required by the 1986 Amendments. [illegible] brief, U.S. EPA is required to make the following changes to the PWS Program and the NPDWRs:

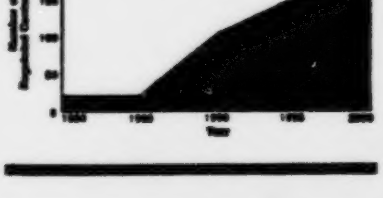
- Increase to nearly 200 by the year 2000, the number of regulated contaminants (see Figure 7).
- Require water systems to monitor over 100 yet unregulated contaminants.
- Require filtration for nearly all surface water systems, and disinfection for all surface water and many groundwater systems.
- Ensure th[illegible] new ban on lea[illegible] based so[illegible] pipe, and fl[illegible] materials [illegible] properly implemented.
- Take action in response to bolstered enforcement powers.

Furthermore, in 1988 Congress passed the Lead Contamination Control Act which requires U.S. EPA to maintain an updated list of water coolers with lead-based components, and to develop guidance for controlling the lead contamination of school drinking water.

The health basis for drinking water requirements. SDWA requires all NPDWR standards to be health-based, and establishes the rationale that EPA must use when developing those standards. A health-based standard must be adopted for each regulated contaminant and must consist of either a Maximum Contaminant Level (MCL), or a treatment technique requirement. An MCL is the contaminant concentration level that legally cannot be exceeded in treated drinking water. If it is not feasible to detect the contaminant in drinking water, a treatment technique requirement is established in lieu of an MCL.

In establishing an MCL, EPA must first develop an MCL Goal or MCLG. The MCLG reflects the concentration level at which there is no known or anticipated adverse health effect, based upon a lifetime consumption of drinking water at the MCLG concentration. The MCL is then set as close to the MCLG as feasible. Feasible means the treated water concentration that can be achieved using the best treatment technology (taking cost into consideration) available. It is important to note that much emphasis is being placed upon long-term health effects. In fact, the standards for regulated contaminants are being set at very low levels in order to ensure a lifetime of protection against both acute and chronic health effects.

Figure 7.
Contaminants regulated pursuant to the Public Water Supply Program.



Roles for Local Officials

Local health officials are in an excellent position to fulfill key roles in ensuring safe drinking water within their communities. As a part of their existing activities and responsibilities, many local health officials are already involved in some aspect of drinking water protection. The existing roles of local health officials range from technical assistance for household well owners to formal involvement in the Public Water Supply (PWS) Program, such as carrying out inspections of public water systems.

Of course, the future roles assumed by local health officials will vary from place to place and depend upon many factors, including most importantly 1) the resources available to local health departments, 2) the nature of individual state PWS programs, 3) the presence of legal barriers which prevent state PWS programs from delegating drinking water authorities to local governments, and 4) the interest of local health officials themselves. The EPA Office of Drinking Water has identified three general areas of activity where local health officials can take on key roles.

Working with household well owners. Most local health officials are already involved with private well owners. Private wells serving individual households are not subject to the federal drinking water requirements, and in most cases, regulation occurs only at the local level. Nonetheless, EPA is concerned about the welfare of household well owners, and desires to be certain that they benefit from the agency's understanding of health risks related to the consumption of contaminated drinking water. Local health officials can assist houshold well owners in the following ways:

- By answering questions and conducting proactive education programs addressing the health risks associated with drinking water contaminants, especially those common to the local area.
- By providing information and technical assistance to well owners with respect to water sampling and analysis, including the interpretation of laboratory results.
- By providing advice with respect to what type(s) of household treatment devices can be used to prevent the consumption of contaminated water.
- By educating well owners and the community at large about groundwater protection (a form of pollution prevention). And also by providing local residents with a better understanding of the impacts on groundwater caused by septic tank placement and maintenance, and various forms of land use such as agricultural and livestock, underground storage of petroleum products and other chemicals, and the improper handling and disposal of household chemicals.

Informing Public Water System consumers As previously discussed, most of our nation's population—about 85 percent—receives household drinking water from public water systems. Most of the water that is consumed away from the home—at school, at work, or in public places such as restaurants and parks—is also provided by public water systems. Each new rule and regulation that applies to public water systems will directly affect the average citizen. As a result, public water system consumers will have more questions and concerns about their drinking water.

Local health officials can play a critical role in their communities by answering consumers' questions about the importance and impact of the new regulations, about the public health significance of drinking water contamination, and what steps, if any, area consumers should be taking.

More specifically, local health officials can provide such assistance to customers of public water systems by conducting proactive public education programs—in coordination with area water utilities and the state PWS program—addressing 1) the significance and health effects of drinking water contamination, 2) the protection of drinking water at the supply source, 3) the techniques for conserving drinking water, and 4) the need for higher water rates in order to pay for protection from long-term health effects.

Assuming a Formal Role In the Public Water Supply Program

As discussed above, one of the unfortunate realities confronting state PWS programs is a significant lack of funding.

Local health officials can help the states with their financial woes in numerous ways. Most immediately and importantly, local health officials could help generate support, among both the general public and state legislators, for increased state PWS program resources. Once the state program secures additional resources, local health officials can enter into formal agreements with the state. These agreements would enable local health officials to assume certain state PWS program responsibilities, such as sampling, inspections, and some enforcement activities. In brief, the following are various ways in which local health officials can become more involved with the state PWS program:

- By supporting all efforts to increase the capacity of the state PWS Program.
- By actively encouraging both elected and appointed decision-makers to support increased resources for their state PWS program, and by explaining to the public the importance of a strong state PWS program.
- By supporting state PWS program efforts to resolve small water system problems, especially the promotion of managerial consolidation among nearby small systems, and helping small systems with understanding monitoring requirements and interpreting monitoring results.

To conclude, drinking water program requirements are now expanding to an unprecedented degree. The successful implementation of these requirements will involve the utmost cooperation from all affected parties. Both U.S. EPA and state PWS programs are now relying upon local health officials, as never before, to expand and apply their knowledge, expertise, and assistance, especially in light of the close relationships they enjoy with the local public.

Prepared for NEHA by Peter Shanaghan, Mobilization Coordinator, Office of Drinking Water, U.S. EPA. For further information, please call the U.S. EPA Safe Drinking Water Hotline at 1-800 426-4791; 382-5533 in the Washington, D.C., metro area.

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ODW Publications

Brochures and Pamphlets

Is Your Drinking Water Safe?

A pamphlet that provides an overview of the regulatory requirements of the SDWA amendments. Written in simple, non-technical terms, the pamphlet is a good source of basic information on EPA's public water supply program.

Bottled Water

Household Water Treatment

SDWA for State and Local Officials

Radon

Compliance/Enforcement

Your Drinking Water: From Source to Tap

Lead and Your Drinking Water

Reports and Studies

Paying for Safe Water: Alternative Financing Mechanisms for State Drinking Water Programs

A handbook that discusses methods that State drinking water programs can use to raise revenues to finance the costs associated with implementation of the SDWA amendments.

Ensuring the Viability of New, Small Drinking Water Systems: A Study of State Programs

A study of four State programs aimed at controlling the creation of non-viable small drinking water systems. Programs in Connecticut, Georgia, Maryland, and Washington are evaluated. (EPA document number 570/9-89-004, April 1989)

Improving the Viability of Existing Small Drinking Water Systems

A study of State initiatives used to address the problems of small drinking water systems, including restructuring options such as O&M contracting and acquisition of non-viable systems. Case studies of successful programs and names and telephone numbers of persons to contact for additional information are included. (EPA document number 570-9-90-004, June 1990)

Newsletter Articles

The following articles are available from Beth Hall who is coordinating the development of the generic articles; her phone number is (202) 382-5553.

Drinking Water Regulations Expand for School and Business Operated Systems

A 3 1/2-page article that reviews current drinking water requirements for NTNCWSs and provides a brief overview of forthcoming requirements.

Teachers and Safe Drinking Water

This 2-page article discusses the role that teachers play in preparing their communities for the new requirements. Emphasis is placed on local involvement and public education.

Small Communities and Drinking Water

This 3 1/2-page article discusses the role that community leaders and decision makers can play in preparing their communities for the new requirements. Emphasis is placed on understanding the new regulatory requirements, identifying sources of assistance, and considering all the options for compliance.

Appendix N

Massachusetts Department of Environmental Protection
QUESTIONNAIRE ON TECHNICAL SERVICES AND PUBLIC OUTREACH FOR SAFE DRINKING WATER

1. **ORGANIZATION** ____________________
2. **MAILING ADDRESS** ____________________

   ____

   TOWN __________ **STATE** ______ **ZIP CODE** ______
3. **TELEPHONE NO.** (____) ______-________
4. **CONTACT PERSON:** ____________________

   TITLE ____________________

   ADDRESS ____________________

   ____

   TOWN __________ **STATE** ______ **ZIP CODE** ______
5. **STATUS OF ORGANIZATION:** Profit _____ Nonprofit 501 C3 _____ Government Agency _____ (circle type below)

   federal state county local
6. **ORGANIZATION CATEGORY DESCRIPTION:**

   a. Water Supply b. Environmental Consulting c. Legal d. Planning e. Financial f. Library g. Public Education

   h. Other ____________________ (please specify)

IN WHICH OF THE FOLLOWING SERVICES AND ACTIVITES IS YOUR ORGANIZATION INVOLVED?
Please answer all that apply, and please be as specific as possible.

A. TECHNICAL ASSISTANCE

   a. On-Site Inspections/Maintenance/Management of ____________________ (i.e. water supply distribution systems, water supply sanitary surveys, soils, etc.)
      for ____________________ (give purpose)

   b. Accept Telephone Inquiries on ____________________ (give subject areas)

   c. Grant Proposal Development (state/federal/private $ sources) for ____________________
      (i.e. financial assistance to conduct studies, construct facilities, purchase equipment and supplies, etc.)

   d. Training/Education ____________________

      Certification/Degrees offered (if any) ____________________

   e. Legal Assistance ____________________

   f. Planning Assistance ____________________

   g. Other ____________________ (please specify)

B. OUTREACH/EDUCATION

   a. Publication Types (i.e. fact sheets, pamphlets, newsletters, etc.) ____________________

      Topics of Publications ____________________

   b. Technical Library ____________________

   c. Computer Network/Bulletin Board ____________________

   d. Audio Visual Resources ____________________

   e. Mass Media (i.e. outreach through T.V., billboards, etc.) ____________________

   f. Workshops/Seminars/Classes ____________________

      Certification/Degrees offered (if any) ____________________

   g. Other ____________________

(continued next page)

C. LOBBYING

a. Federal/State/Local Lobbying ______________________________

b. Grassroots Lobbying ______________________________

D. FUNDING SOURCE ______________________________

E. OTHER ______________________________

____

WHAT SEGMENT OF THE PUBLIC DOES YOUR ORGANIZATION ADDRESS?

(i.e. general public; water suppliers; local, state or federal government, etc.)

____

____

Appendix O

PENNVEST
PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY
22 South Third Street, Harrisburg, Pennsylvania 17101

A Water Utility's Guide To Financial and Technical Assistance Programs

Issued By The

Pennsylvania Infrastructure Investment Authority
Commonwealth of Pennsylvania

Governor Robert P. Casey,
Chairman

January 1990

COMMONWEALTH OF PENNSYLVANIA
OFFICE OF THE GOVERNOR
HARRISBURG

THE GOVERNOR

We are committed to improving the quality of life for Pennsylvania families by helping supply the clean water for our communities. The Pennsylvania Infrastructure Investment Authority -- or PENNVEST -- has become the vital source of funding for these desperately needed infrastructure improvements.

For too long our Commonwealth's smaller communities found it almost impossible to finance the kind of capital investment so vital to a healthy environment and a robust economy. We established PENNVEST in 1988 to help provide more than $2.5 billion for improvements in Pennsylvania's drinking water and sewer systems.

There are about 2,400 local water systems in Pennsylvania, more than any other state in the nation. Some 2,100 of them serve fewer than 3,300 customers, frequently in communities with a narrow or shrinking tax base. The burden of millions of dollars of improvements in these systems -- which average only 478 customers each -- could result in enormous rate increases. Instead, PENNVEST's low-interest loans, along with the other assistance plans described in this booklet, can keep down the costs to our consumers and create jobs in our communities.

This "Water Utility's Guide to Financial and Technical Assistance Programs" provides a list of agencies that are ready to provide the environmental infrastructure we need to leave our children and grandchildren. They have a right to clean drinking water, and through PENNVEST, we are now making that right into a reality.

Robert P Casey

Robert P. Casey
Governor

Pennsylvania Infrastructure Investment Authority

Program
PENNVEST

Types of Assistance
Low interest loans and supplemental grants for drinking water and wastewater, including industrial wastewater systems.

Who Is Eligible
Any owner or operator of any wastewater or drinking water system. The owner or operator may be either a public or private entity, including any person, corporation, partnership, association, cooperative, municipal authority or governmental unit.

Program Use
Financial assistance is available for construction, improvement, expansion, extension, acquisition, repair or rehabilitation of all or any part of any facility or system, whether publicly or privately owned, for the collection, treatment or disposal of wastewater, including industrial wastewater, or for the supply, treatment, storage or distribution of drinking water. Eligible costs may include, but are not limited to, construction, project design and engineering, administration, permit fees, legal fees, acquisition of property rights and equipment that are preliminary to or a necessary part of the project and interest during construction.

Activity and Amount of Funds Available
PENNVEST is able to finance up to 100% of eligible project costs, subject to the following limits. There is an overall project cap of $11 million per project. This cap is increased to $20 million if more than one municipality is served and can be exceeded with Authority approval if four or more communities are served. The Authority may require the applicant to participate in financing a project when it determines that the applicant has the financial capability to do so and that such participation is desirable.

PENNVEST financial assistance will primarily consist of low interest loans with some supplemental grant funds available for economically distressed communities. Interest rates vary based, in part, on the cost of funds to the Commonwealth. Once a PENNVEST loan is approved, interest is fixed for the term of the loan. It is anticipated that most of the loans will have a term of 20 years and carry interest rates ranging from 1% to approximately 6%. There are no application, loan origination, or service fees. There are no pre-payment penalties on loans. Loan applicants are eligible for an expedited rate review process established by the PUC to facilitate debt service repayment.

Application Procedure
Contact the Pennsylvania Infrastructure Investment Authority and request an application form for publicly-owned wastewater, publicly-owned drinking water, non-governmental wastewater, or non-governmental drinking water systems, as appropriate. The fundamental objectives that will guide project evaluation and selection are improvements to public health, public safety and the environment. Performance on other criteria, including improvements to economic development, compliance with State and Federal requirements, social impact, and improvements to adequacy and efficiency are also considered. Meetings are held on a quarterly basis. Special meetings can be held on emergency situations.

Where to Apply
Pennsylvania Infrastructure Investment Authority
22 South Third Street
Harrisburg, PA 17101
(717) 787-8137

Pennsylvania Infrastructure Investment Authority

Program
PENNVEST Advanced Funding Program

Types of Assistance
Low interest loans and possibly supplemental grants are available for feasibility studies and the design and engineering of drinking water systems The design and engineering of wastewater systems may also be funded Feasibility studies of wastewater systems may be funded by Act 537 as administered by DER

Who is Eligible
Any current or prospective owner or operator of any drinking water or wastewater system This may be either a public or a private organization, including any person, corporation, partnership, association, cooperative, municipal authority, or governmental unit.

Program Use
The intent of the Advanced Funding Program is to aid providers and prospective providers of water and wastewater service who cannot afford to locally finance the costs of the preliminary tasks required in order to apply for a PENNVEST construction loan Loans are made available for a term of five years

The approval of an advance funding application is not a guarantee of construction funding, nor is it a requirement to use PENNVEST to fund construction The applicant will be obliged to implement any project receiving advance funding If construction funding is later approved, the advance funding loan can be made a part of the construction loan

The great majority of advance funding will be made available in the form of low interest loans Grants are possible, but will be very limited In most cases any grant funds provided will be combined with loan funds Interest rates are determined in the same way as is done for construction projects

Application Procedure
The application procedure is similar to that used for the construction loan projects Application forms can be obtained from the PENNVEST office All applicants are required to conduct a preliminary planning consultation with DER in order to assure maximum coordination

Where to Apply
Pennsylvania Infrastructure Investment Authority
22 South Third Street
Harrisburg PA 17101
(717) 787 8137

Pennsylvania Department of Environmental Resources

Program
Technical Assistance Program for Small Systems (TAPSS)

Types of Assistance
On site technical assistance and training

Who is Eligible
This program focuses on small publicly and privately owned drinking water systems serving 25 or more people DER is offering this technical assistance and training to small water system operators in Pennsylvania

Program Use
DER is contracting with consultants highly experienced in effective operation of drinking water treatment facilities to go to small water systems and provide technical assistance and training to the operators The program covers proper operation and maintenance of facilities for filtration, disinfection or corrosion control Evaluation of the effectiveness of the treatment, including performance samples will be provided Training to meet both normal and emergency operating conditions will be given The goal is to improve the quality of the drinking water as much as possible with the existing facilities and meet the requirements of the Pennsylvania Safe Drinking Water Act TAPSS will also provide information on funding sources, such as PENNVEST to assist in upgrading treatment facilities

Activity and Amount of Funds
The training will be provided on site at each operator's water system and during hours convenient to the operator, including evenings The cost of technical assistance and training will be borne solely by DER The system owner or operator will not be charged for any services provided through this program

Application Procedure
Contact the Project Manager listed below Priority is based on the minimization of violations of the many new drinking water requirements and the likelihood of improved drinking water quality as a result of the technical assistance and training

Where to Apply
Walt Harner, Project Manager, Pennsylvania Department of Environmental Resources
Bureau of Community Environmental Control, Division of Water Supplies
P O Box 2357
Harrisburg, PA 17120
(717) 787 5017

Pennsylvania Department of Environmental Resources

Program
Bureau of Water Resources Management
Water Conservation/Technical Assistance Program

Types of Assistance
Technical assistance is provided to small (1,000 or fewer service connections) publicly or privately owned community drinking water systems through on site visits by DER personnel.

Who Is Eligible
Any owner/operator of a small community water system with 1,000 or fewer service connections. Municipalities, municipal authorities, corporations, partnerships, proprietorships, associations, and institutions are eligible.

Program Use
The following services are available through the program: leak detection, water meter management, rate scheduling and drought contingency planning. Leak detection equipment and training in the proper care and handling of available equipment is provided free of charge.

Activity and Amount of Funds Available
Technical assistance is provided free of cost. No charge will be made to the system owner/operator.

Application Procedure
Contact the Bureau of Water Resources Management and request assistance. Eligibility and priority will be determined by the Bureau based on public health and safety issues and compliance with State and Federal standards.

Where to Apply
Tom Fidler, Chief
Water Conservation Technical Services Section
State Water Plan, Bureau of Water Resources Management
Department of Environmental Resources
Evangelical Press Building
Third and Reily Streets
Harrisburg, PA 17120
(717) 787-6750

Pennsylvania Department of Commerce

Program
Community Facilities Grant

Types of Assistance
Supplemental financial assistance (project grants) for needed public facilities to strengthen income producing capability, improve health and safety and alleviate financial hardship of the community.

Who Is Eligible
Any Pennsylvania borough, township, city, municipality or county authority with a population of 12,000 or fewer people. Authorities serving multiple communities with a combined population of 12,000 or more people are ineligible.

Program Use
Construction, rehabilitation, alteration, expansion or improvement of water facilities, pumping stations, distribution and treatment facilities, reservoir rehabilitation projects and access roads.

Activity and Amount of Funds Available
Grants are limited to projects of $2,000,000 or less. Grants may be awarded for up to $50,000 or 50% of eligible project cost, whichever is less. Eligible costs include construction, project design, engineering and legal costs (relating to construction). Eligible municipalities and certain economically distressed communities within counties having annual average unemployment rates more than 30% higher than the statewide average are eligible for maximum grants of up to $75,000 or 75% of total eligible project cost, whichever is less.

Application Procedure
Send letter of intent to Bureau of Business Financing by April 15th. File application by May 1st. The application will be evaluated on the basis of order of importance: improvement of health and safety, degree of economic distress, economic impact, project readiness and cost effectiveness. Funding decisions will be reached by July 31st.

Where to Apply
Mary McGlinchey, Chief, Division of Grants and Loans
Bureau of Business Financing
PA Department of Commerce
Room 494, Forum Building
Harrisburg, PA 17120
(717) 787-7120

Pennsylvania Department of Commerce

Program
Site Development Grant

Types of Assistance
Project grants to increase industrial employment by encouraging the industrial growth of the Commonwealth

Who Is Eligible
Any Pennsylvania municipality (township, borough, city), non profit industrial development agency or state agency which will serve an industrial or tourist site

Program Use
Installation of water facilities, pumping stations, distribution and treatment facilities, sanitary sewage lines, channel realignment and access roads. Sewage treatment and storm sewer projects are ineligible for funding

Activity and Amount of Funds
Maximum grants may be for $50,000 or 50% of eligible project costs, whichever is less. Eligible costs include construction, project design, engineering and legal costs (relating to construction). Eligible municipalities and certain distressed communities within counties having annual average unemployment rates more than 30% higher than the statewide average are eligible for maximum grants of up to $100,000 or 50% of total eligible project cost, whichever is less

Application Procedure
Send letter of intent to Bureau of Business Financing by April 1st. File application by May 1st. Applications will be evaluated based on the following (listed in order of importance): degree of economic distress, economic impact of project, project readiness, improvement of health and safety and cost effectiveness

Where to Apply
Mary McGlinchey, Chief, Division of Grants and Loans
Bureau of Business Financing
PA Department of Commerce
Room 494, Forum Building
Harrisburg, PA 17120
(717) 787 7120

Pennsylvania Department of Commerce

Program
Business Infrastructure Development Program (BID)

Types of Assistance
Grants or loans to local sponsors in order to install specific infrastructure improvements necessary to complement industrial investment by **private** companies which increase Pennsylvania's share of domestic and **international** commerce and create new jobs

Who Is Eligible
Eligible sponsors include local governments (boroughs, townships, cities), councils of governments, municipal authorities and redevelopment authorities. Eligible private businesses include agricultural, industrial and manufacturing businesses and research development enterprises

Program Use
Construction, expansion, improvement and rehabilitation is limited to drainage systems, energy facilities, fire and safety facilities, transportation facilities, water systems and waste disposal facilities. To be eligible, all infrastructure improvement projects must be necessary for the operation of an eligible business or business at a **specific** job generating site. The infrastructure improvement must net **one** [illegible] time job (at the specific job site) within three years for every $15,000 [illegible] granted. The private business must be providing $2 in investment for every $1 in BID funding

Activity and Amount of Funds Available
Individual grants and loans may not exceed $1,500,000. Interest rates and loan terms will be determined by the Department of Commerce. Maximum loan term shall be no greater than 20 years. Eligible costs include construction, site clearance, demolition, engineering and design expenses, legal costs and administrative expenses (needed to effectively administer BID grants or loans)

Application Procedures
Eligible sponsor provides letter of application request along with a letter of intent from the private business to Pennsylvania Department of Commerce. If project is determined eligible, application material will then be sent. Completed applications will be processed within thirty days of their receipt

Where to Apply
Mary McGlinchey, Chief, Division of Grants and Loans
Bureau of Business Financing
PA Department of Commerce
Room 494, Forum Building
Harrisburg, PA 17120
(717) 787 7120

Pennsylvania Department of Commerce

Program
Appalachian Regional Development Supplemental Grant

Types of Assistance
Supplemental grants to communities within the Appalachian Local Development districts (see Appendix A for listing) to aid construction projects vital to regional growth

Who is Eligible
Municipalities, municipal authorities, sewer authorities, school districts, planning commissions, or public or private non profit organizations. There are no size or income restrictions

Program Use
Construction of water systems, sewer systems and treatment plants. Eligible costs include construction, project design and engineering costs and all legal and administrative fees

Activity and Amount of Funds Available
The bulk of funds available to Pennsylvania recipients are used to support enterprise development in Pennsylvania's seven Appalachian Local Development Districts

Application Procedures
Contact the Office of Enterprise Development or the Appalachian Local Development District serving the county in which the project is located (See Appendix A). The project will be assessed based on the severity of the problem and number of people affected

Where to Apply
Katherine Wilson, Chief
Office of Enterprise Development
PA Department of Commerce
Room 404, Forum Building
Harrisburg, PA 17120
(717) 783 5033

Pennsylvania Department of Community Affairs

Program
Bureau of Housing and Development, Small Communities Division Community Development Block Grants/Small Municipalities Entitlement and Competitive Grant Program

Types of Assistance
Grants to provide the Federal non entitlement municipalities of Pennsylvania with funding needed to address local community development needs in the areas of housing, community facilities, economic development and public services including community drinking water systems

Who is Eligible
General purpose units of local government **not** designated as Federal entitlement counties or municipalities (see Appendix B for a listing of Federal entitlement governments which are ineligible for DCA money). Applicants must demonstrate that no less than 51% of funding to be received will principally benefit persons of low/moderate income. The municipality may apply through its county or directly apply itself

Program Use
Acquisition, construction, reconstruction or installation of water and sewage facilities

Activities and Amount of Funds Available
Entitlement funding is allocated to eligible municipalities and counties on a formula basis. Selected projects must meet specific program regulations and requirements to be approved by DCA. Competitive funding is specific project funding which is competitively awarded by DCA to eligible municipalities based on specific project proposals. DCA determines priority based on community need, project scope, impact on low/moderate income residents and other factors

Eligible costs include engineering and construction costs. Ineligible costs include construction equipment purchases, operating and maintenance costs and staff salaries

Application Procedures
For competitive grants, contact DCA's Small Communities Division and request an application. For entitlement grants, contact the local county planning office or apply directly to DCA's Small Communities Division. Applications will be evaluated on the basis of the following: community need, seriousness of the problem, resolution to the problem, benefit to low/moderate income residents and timeliness of project completion

Where to Apply
Riley Stoy, Chief
Small Communities Program Division
Department of Community Affairs
Room 515, Forum Building
Harrisburg, PA 17120
(717) 783 3910

Pennsylvania Department of Health

Program
Division of Health Promotion - Fluoridation Program for Community Drinking Water Systems

Types of Assistance
Financial assistance (grants) to initiate community drinking water fluoridation Technical information on the benefits, safety and economy of fluoridation is also offered

Who is Eligible
Any public (municipality or municipal authority) or any private nonprofit (association) owner of a community drinking water system The governing entity must have taken formal action authorizing the addition of fluoride to the water Engineering plans must be approved by the Department of Environmental Resources

Program Use
Grants are provided through the Department of Health to community drinking water systems in order that fluoridation may be included in the drinking water system Fluoridation is one of the most efficient and practical means for preventing and suppressing tooth decay and dental disease The Department of Health will contract with eligible entities to provide fluoridation Up to 100% of the costs of fluoridating may be reimbursed depending upon the availability of funds Reimbursable items include cost of engineering plans, purchasing and installation of equipment, testing equipment and supplies, training of operator(s) and the first year's supply of fluoride chemical The Department of Health also provides technical information on the value of community drinking water fluoridation

Activity and Amount of Funds Available
Funds for reimbursement of costs of fluoridating are allocated annually from the Preventive Health and Health Services Block Grant The amount of assistance available depends upon allocations and requests received Fluoridation information and educational materials are available free of charge

Application Procedure
Submit a copy of the formal action to fluoridate taken by the governing entity, a narrative description of the water system and the population and geographic area served together with an itemized proposed budget From this information, a proposed contract for services will be prepared and returned for review and signature

Where to Apply
Pennsylvania Department of Health
Division of Health Promotion
Room 912 A
Health and Welfare Building
P O Box 90
Harrisburg, PA 17108
(717) 787 6967

Farmers Home Administration (FmHA)

Program
Water and Waste Disposal Grants and Loans (Program #10 418)

Types of Assistance
Grants and direct [illegible] water and waste disposal facilities in rural areas and towns of 10,000 or fewer people

Who is Eligible
Public entities such as municipalities, municipal authorities, counties, non profit organizations and community action agencies Population restriction is 10,000 people per community Priority will be given to rural communities with populations of 5,000 or fewer people

Program Use
Acquisition of a water supply construction or improvement of water supply reservoirs, pipelines, wells, pumping plants, water and sewage filtration and treatment facilities Eligible costs include legal and administrative fees, engineering fees, equipment costs relating to the project (as deemed appropriate by FmHA) and all construction costs

Activity and Amount of Funds Available
FmHA is primarily a loan agency with supplemental grant money used at the discretion of FmHA to maintain the water and sewer rates charged to the system users at reasonable levels Interest rates are determined by the median income of the community and are classified as poverty, intermediate or market rates Poverty classification is based on median income of $12,918 or less per home for 1987

Application Procedure
Contact the FmHA District Office for your county to submit an application and file Form AD 621 Priority will be given to public entities in areas of 5,000 or fewer people with consideration given to median income, severity of the problem and availability of other credit

Where to Apply
See Appendix C
FmHA District Offices

Farmers Home Administration (FmHA)

Program
Home Ownership Loans (Program #502 and #504)

Types of Assistance
Low interest loans and interest subsidies to provide water supply and sewage disposal facilities

Who is Eligible
Individuals of low to moderate income living in FmHA served areas who need housing rehabilitation but are unable to obtain affordable credit elsewhere

Program Use
Building or rehabilitation of a dwelling by providing a water supply and/or sewage disposal facility. This could include constructing or modernizing kitchens or bathrooms, developing a drinking water well or connecting with community water systems

Activity and Amount of Funds Available
Eligible costs include water or sewer connection fees

Application Procedure
Contact the FmHA County Office in your county for an interview. The county supervisor will arrange an inspection of the property. Loans will be awarded based on the supervisors inspection report

Where to Apply
See Appendix D
FmHA County Offices

Economic Development Administration (EDA)

Program
Public Works and Development Facilities Program

Types of Assistance
Grants and loans for water and sewer projects which primarily serve industrial and commercial users to assist in the construction of public facilities needed to initiate and encourage the creation and retention of jobs in the private sector

Who is Eligible
States, cities, counties, political subdivisions and private or public non profit organizations

Program Use
Acquisition, construction, rehabilitation, expansion or improvement of water and sewage facilities and access roads. Project must enhance economic development of its industrial and commercial users or stimulate community growth by creating jobs, reducing unemployment and raising family incomes

Activity and Amount of Funds Available
Eligible projects may receive grants of up to 50% of total project cost

Application Procedure
Contact your local Economic Development District to establish a pre application conference. An EDA representative will then determine if further processing is necessary. Priority will be determined by project economic impact, community needs, availability of funds and the nature of the project

Where to Apply
See Appendix E
EDA District Offices

National Rural Water Association

Program
Pennsylvania Rural Water Association
Training and Technical Assistance Program

Types of Assistance
Technical assistance provided by certified water plant operators along with training sessions whose purpose is to supply a community water system owner/operator with educational training in operational, daily work areas in order that the system may be better able to comply with the Pennsylvania Safe Drinking Water Act

Who is Eligible
Any community drinking water system in Pennsylvania with a resident population of 10,000 or less is eligible. System types include municipalities, municipal authorities, [illegible]ions, corporations, institutions, partnerships, proprietorships and mobile home parks

Program Use
Technical assistance includes an on-site visit to provide extensive water system training in water loss, leak detection, chlorination, metering, rate structuring, proper record keeping, and day-to-day operation and maintenance. Training sessions are offered throughout Pennsylvania. Topics discussed include filtration, distribution, maintenance and public education. Pennsylvania Rural Water Association's Training Program has been accepted as credit experience for water system operator certification

Activity and Amount of Funds Available
Technical assistance and training sessions are provided free to community water systems. The cost of the program is borne solely by the National Rural Water Association. On average, 720 site visits and 14 to 16 training sessions are held on an annual basis. Pennsylvania Rural Water Association's Training Program has been accepted as credit experience for water system operator certification

Application Procedure
Contact the Pennsylvania Chapter of the National Rural Water Association and request a meeting

Where to Apply
Herb Pizer, Program Manager
Pennsylvania Rural Water Association
Saltsburg Plaza
PO Box 90
Saltsburg, PA 15681
(412) 639 5246

Rural Housing Improvement, Inc.

Program
Rural Water Resources (RWR) formerly the Rural Community Assistance Program (RCAP)

Types of Assistance
Technical assistance through services and training in all aspects of developing, maintaining and managing adequate, affordable water/ wastewater systems in rural low income areas

Who is Eligible
Any community drinking water or wastewater system which has a resident population of 10,000 or less is eligible. Municipalities, municipal authorities, associations, institutions, private companies and mobile home parks are eligible

Program Use
RWR provides a wide variety of technical assistance in administrative and financial areas of water system operations. RWR staff acts in an advisory capacity to systems/ communities to facilitate the selection of appropriate technologies compatible with an area's physical, cultural and economic environment. RWR staff will assist in preparing applications, provide educational material and workshops and act as a liaison between state, federal, regional, and local officials

Activity and Amount of Funds Available
Technical assistance is provided to community drinking water systems free of charge. The program is not a funding or regulatory body, but will assist the systems/ communities in dealing with all appropriate agencies

Application Procedure
Request an application/questionnaire for technical assistance from the Rural Water Resources. Priority will be based on the ability of the community and the severity of the water resource problem

Where to Apply
Rural Water Resources
Attention Lawrence Stepenuck
218 Central Street
Box 429
Winchendon, Massachusetts 01475
(617) 297 1376

American Water Works Association

Program
Small System Program

Program Use
The new Small System Program will provide technical assistance to small community drinking water system owners and operators through instruction and training packets along with public education seminars The goal of the program is to help small system owners and operators develop expertise in daily system operations, water system management and finance water related legislation and regulations Specific program topics may include iron and manganese removal wells, pumps hydrants filters, corrosion and cross connections

AWWA also co chairs with DER a Committee on Small Drinking Water System Issues which includes representation from many private and governmental organizations concerned with small drinking water systems This committee can serve as a clearing house for information and assistance desired by a small drinking water system owner or operator

Where to Apply
For more information on AWWA's Small System Program, contact

Dale Kratzer
PSC Environmental Services Inc
200 North Warner Road
Suite 300
King of Prussia, PA 19406
(215) 337 3060

Pennsylvania Public Utilities Commission

Program
Public Utility Technical Assistance

Types of Assistance
The Commission can supply water providers with assistance and information on general operations, rate structures, compliance with regulations, and customer relations, including billing and collection procedures Assistance with filing for rate increases can also be made available

Special expedient rate considerations can be allowed under certain circumstances

Who Is Eligible
Any regulated utility may receive technical assistance, although it is most often used by utilities with less than $200,000 in annual revenues

Expedient rate considerations can be granted in either of two special circumstances as discussed below

Program Use
The two types of expedient rate considerations are short form filings and pass through filings

Short form filings are for small utilities, generally identified as those generating less than $200,000 annually Short form filings require less time for consideration than the more complex regular filings

Pass through filings are those that request rate increases solely for the purpose of defraying the expenses associated with the repayment of a PENNVEST loan, the purchase of water from another provider or the purchase of electricity Since these rate increases involve only the passing through of costs to the utility, the Commission is able to process them more quickly

Application Procedure
There is no formal application procedure to obtain technical assistance It is recommended that utilities requiring such assistance write or telephone the Commission at the address below

Forms for short form and pass through rate increase filings can be obtained from the commission at the address below

Where to Apply
Attention Judy Carlson
Pennsylvania Public Utilities Commission
PO Box 3265
Harrisburg, PA 17120
(717) 783 5590

Appendix A
Pennsylvania Department of Commerce

Local Appalachian Region Development Districts

SEDA Council of Governments
Timberhaven R D #1
Lewisburg, PA 17837
(717) 524 4491
Counties served Centre, Clinton, Columbia, Juniata, Lycoming, Mifflin, Montour, Northumberland, Perry, Snyder and Union

Southwestern Pennsylvania Economic Development District
110 Market Street
Pittsburgh, PA 15222
(412) 391 1240
Counties served Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Huntington and Westmoreland

North Central Pennsylvania Regional Planning and Development Commission
651 Montmorenci Avenue
PO Box 488
Ridgway, PA 15853
(814) 773 3162
Counties served Cameron, Clearfield, Elk, Jefferson, McKean and Potter

Southern Alleghenies Planning and Development Commission
Suite 100
Southern Alleghenies Plaza
1506 Eleventh Avenue
Altoona, PA 16601
(814) 946 1641
Counties served Bedford, Blair, Cambria, Fulton, Huntingdon and Somerset

Northern Tier Regional Planning and Development Commission
507 Main Street
Towanda, PA 18848
(717) 265 9103
Counties served Bradford, Sullivan, Susquehanna, Tioga and Wyoming

Economic Development Council of Northeastern Pennsylvania
1151 Oak Street
Pittston, PA 18640 3795
(717) 655 5581
Counties served Carbon, Lackawanna, Luzerne, Monroe, Pike, Schuylkill and Wayne

Northwest Pennsylvania Regional Planning and Development Commission
Suite 406
Biery Building
Franklin, PA 16323
(814) 437 3024
Counties served Clarion, Crawford, Erie, Forest, Lawrence, Mercer, Venango and Warren

Appendix B
Department of Community Affairs

Federal entitlement governments which are ineligible for DCA grant money are as follows

Entitlement Counties

- Allegheny
- Beaver
- Berks
- Bucks
- Chester
- Delaware
- Lancaster
- Luzerne
- Montgomery
- Washington
- Westmoreland
- York

Federal Entitlement Municipalities

- Allentown (Lehigh)
- Altoona (Blair)
- Bethlehem (Northampton)
- Carlisle (Cumberland)
- Easton (Northampton)
- Erie (Erie)
- Harrisburg (Dauphin)
- Johnstown (Cambria)
- Lebanon (Lebanon)
- Pittsburgh (Allegheny)
- Philadelphia (Philadelphia)
- Scranton (Lackawanna)
- Sharon (Mercer)
- State College (Centre)
- Williamsport (Lycoming)

The following communities have "opted out" of Urban County Programs and are eligible for DCA administered CDBG grant funds

Bradford Woods Borough (Allegheny)
Ellwood City Borough (Beaver)
Potter Township (Beaver)
West Pikeland Township (Chester)
West Bradford Township (Chester)
West Goshen Township (Chester)
Nanticoke City (Luzerne)
Pittston City (Luzerne)
Conshohocken Borough (Montgomery)
Limerick Township (Montgomery)
Arnold City (Westmoreland)
Jeannette City (Westmoreland)
Monessen City (Westmoreland)
New Kensington City (Westmoreland)
Scottsdale Borough (Westmoreland)

Appendix C
Farmers Home Administration District Offices

District Office	County Office	Address and Phone
Meadville	Brookville Clearfield Franklin	Ed Kau Building 1012 Water Street Meadville, PA 16335 (814) 336 6155
Lewisburg	Bellefonte Bloomsburg Lewisburg Mifflintown Montrose Towanda Wellsboro Williamsport	P O Box 252 Room 403 Federal Building Lewisburg, PA 17837 (717) 524 4450
Allentown	Allentown Cleona Doylestown Honesdale Leesport Nanticoke West Chester	850 North 5th Street Allentown, PA 18102 (215) 776 4296
Mars	Butler Ebensburg Greensburg Kittanning Somerset Uniontown Washington	Mars Professional Building PO Box 422 Pittsburgh Street Mars, PA 16046 (412) 625 3174
Chambersburg	Bedford Carlisle Chambersburg Gettysburg Hollidaysburg Huntingdon Lancaster York	301 Lortz Avenue Chambersburg, PA 17201 (717) 263 2728

Appendix D
Farmers Home Administration County Offices

County Office	County Served	Address and Phone
Allentown	Lehigh Carbon Monroe Northampton	Suite #112 3405 Airport Road Allentown, PA 18103 (215) 266 9488
Bedford	Bedford Fulton	Barclay Building PO Box 121 Bedford, PA 15522 (814) 623 9077
Bellefonte	Centre	R D #5, PO Box 38 Bellefonte, PA 16823 (814) 355 1553
Bloomsburg	Columbia Montour Northumberland	P O Box 806 1127 Old Berwick Road Bloomsburg, PA 17815 (717) 784 9033
Brookville	Jefferson Clarion Elk	Jefferson County Service Center R D #5 Brookville, PA 15825 (814) 849 2521
Butler	Butler Beaver	106 Thompson Road Butler, PA 15825 (412) 282 4450
Carlisle	Cumberland Perry	Melmar Suite 43 Brookwood Avenue Carlisle, PA 17013 (717) 249 6306
Chambersburg	Franklin	550 Cleveland Avenue Chambersburg, PA 17201 (717) 264 3442
Clearfield	Clearfield	Agricultural Service Center 650 Leonard Street Clearfield, PA 16830 (814) 765 5316
Cleona	Lebanon Dauphin	528 East Penn Avenue Cleona, PA 17042 (717) 274 2879

County Office	County Served	Address and Phone
Doylestown	Bucks Montgomery Philadelphia	4259 Swamp Road Doylestown PA 18901 (215) 348 1166
Ebensburg	Cambria	P O Box 194 Ebensburg PA 15931 (814) 472 5500
Franklin	Venango Forest	R D #4 Box 665 Franklin PA 16323 (814) 437 3642
Gettysburg	Adams	44 South Franklin Street Gettysburg PA 17325 (717) 334 9231
Greensburg	Westmoreland	938 St Clair Way Route 30 Greensburg PA 15601 (412) 834 0396
Hollidaysburg	Blair	1407 Blair Street Hollidaysburg, PA 16648 (814) 695 9875
Honesdale	Wayne Lackawanna Pike	470 Sunrise Avenue Honesdale PA 18431 (717) 253 1370
Huntingdon	Huntingdon	902 Pennsylvania Avenue Huntingdon PA 16652 (814) 643 6720
Kittanning	Armstrong Indiana	P O Box 921 Armsdale Admin Bldg Kittanning PA 16201 (412) 548 3438
Lancaster	Lancaster	1383 Arcadia Road Lancaster, PA 17601 (717) 393 4760
Leesport	Berks Schuylkill	P O Box 520 Leesport, PA 19533 (215) 372 4686
Lewisburg	Union Snyder	R D #2, P O Box 60 Lewisburg, PA 17837 (717) 524 4429

County Office	County Served	Address and Phone
Meadville	Crawford	Ed Kau Building Warren 1012 Water Street Meadville PA 16335 (814) 724 8117
Mercer	Mercer Lawrence	415 Greenville Road Mercer PA 16137 (412) 662 4080
Mifflintown	Juniata Mifflin	22 North 4th Street Mifflintown, PA 17059 (717) 436 8931
Montrose	Susquehanna Wyoming	R D #5 Box 27F Montrose PA 18801 (717) 278 3781
Nanticoke	Luzerne	71 North Market Street P O Box 148 Nanticoke PA 18634 (717) 735 8700
Smethport	McKean Cameron Potter	Marvin Street Extension R D #1 Smethport PA 16749 (814) 887 5686
Somerset	Somerset	R D #5 Box 359A Somerset PA 15501 (814) 445 8914
Towanda	Bradford Sullivan	R D #5 Box 105 Towanda PA 18848 (717) 265 6165
Uniontown	Fayette	P O Box 2004 Greene 253 South Mt Vernon Avenue Uniontown PA 15401 (412) 437 2708
Washington	Washington Allegheny	37 Highland Avenue Washington PA 15301 (412) 222 3060
Waterford	Erie	R D #5 Rt 19 Waterford PA 16441 (814) 796 6781

County Office	County Served	Address and Phone
Wellsboro	Tioga	Putnam Building 5 East Avenue Wellsboro, PA 16901 (717) 724 4812
West Chester	Chester Delaware	1 North New Street West Chester, PA 19380 (215) 436 9541
Williamsport	Lycoming Clinton	P.O. Box 68 Federal Building 240 240 West Third Street Williamsport, PA 17703 (717) 326 3357
York	York	124 Pleasant Acres Road York, PA 17402 (717) 757 7635

Appendix E
Economic Development Administration District Offices

North Central PA Regional Planning and Development Commission
651 Montmorenci Avenue
Box 488
Ridgway, PA 15853
(814) 773 3162
Counties served Cameron, Clearfield, Elk, Jefferson, McKean and Potter

Northwest PA Regional Planning and Development Commission
Suite 406 Biery Building
Franklin, PA 16323
(814) 437 3024
Counties served Clarion, Crawford, Erie, Forest, Lawrence, Mercer, Venango and Warren

Southern Alleghenies Planning and Development Commission
Suite 100 Southern Allegheny Plaza
1506 Eleventh Avenue
Altoona, PA 16601
(814) 946 1641
Counties served Bedford, Blair, Cambria, Fulton, Huntingdon and Somerset

Southwestern PA Economic Development District
110 Market Street
Pittsburgh, PA 15222
(412) 391 1240
Counties served Allegheny, Armstrong, Beaver, Fayette, Greene, Indiana, Washington and Westmoreland

SEDA Council of Governments
Route #1
Lewsburg, PA 17837
(717) 524 4491
Counties served Centre, Clinton, Columbia, Juniata, Lycoming, Mifflin, Montour, Northumberland, Perry, Snyder and Union

Northern Tier Regional Planning and Development Commission
507 Main Street
Towanda, PA 18845
(717) 265 9103
Counties served Bradford, Sullivan, Susquehanna, Tioga and Wyoming

Economic Development Council of Northeastern Pennsylvania
1151 Oak Street
Pittston, PA 18640
(717) 655 5581
Counties served Carbon, Lackawanna, Luzerne, Monroe, Pike, Schuylkill and Wayne

"Adopt-a-Small-System"

California, long the beacon of fresh attitudes and ideas, is the home of a new program which is putting the Mobilization concept into action. Alameda County Water District (ACWD) has founded an "Adopt-a-Small-System" program which is an inspirational example of how water suppliers can work together to protect their public.

"Adopt-a-Small-System" is the brain child of an interagency small systems outreach committee created to address the unique problems of small systems. Through the program, small systems can draw on the resources available at larger facilities. The first step was compilation of a list of services available from ACWD to small systems within a 50-100 mile radius. The list is a sampling of possible services available with the phone numbers of ACWD employees with expertise in specific areas of water systems management. The small systems can pick up the phone and talk to real live engineers and technicians through an information clearinghouse on topics such as: sampling and testing, monitoring, backflow devices, meters, emergency operating procedures, water main specs, plant operation, training and safety, hazardous materials, wells, corrosion control, leaks, computer systems and setting water rates. Distribution of this list and information about the program is handled by circuit riders from RWA and RCAC, who have established personal relationships with the small systems owners or operators.

A big part of the program is not just offering to answer call-in questions, but to educate the operators so they can ask the right questions. Since many of the small systems have part-time or volunteer operators, they may not know enough about a problem to ask a good question, where to turn for help, or even what the 1986 SDWA Amendments require of them.

Funds don't allow for ACWD employees to travel to the small systems sites, but in addition to providing over-the-phone assistance, limited training at ACWD's own locations would be available. Small systems owners or operators are welcome and encouraged to visit the facilities and meet one-on-one with the technicians and engineers there.

The Bay Area Resource Council (BARC) is being told of the genesis and progress of the "Adopt-a-Small-System" in hopes that neighboring utilities will follow in suit and establish a help network throughout The Bay Area. At the April meeting of the California chapter of the AWWA, ACWD presented its program effort.

The wheels are in motion and all "Adopt-a-Small-System" needs now are some phone calls from anyone with questions, advice or who just wants to touch base. No question is too small or large. If ACWD cannot help, they can at least steer the inquirer in the right direction.

For more information on "Adopt-a-Small-System" or for a list of the available services call John Marchand of ACWD at (415) 659-1970 ext. 522.

Congressional Legislation

Legislation presently being considered by Congress which may affect small water systems.

Small Community Environmental Assistance Act of 1990-Sen. Baucus (D-MT)—This bill was introduced in February 1990 and would direct states to create revolving loan programs to help small communities construct wastewater treatment works, public water systems, and solid waste facilities.

Rural Economic Development Act of 1989-Reps. English (D-OK), Coleman (R-MO), and Gunderson (R-WI)—The bill would authorize $60 million for grants and loans to be made available to small water and waste disposal facilities whose communities face "significant" health risks. (Status: in the Agriculture Committee).

Rural Partnership Act of 1989-Sen. Leahy (D-VT)—The bill would call for the Rural Electrification Administration to make loans to local governments to provide water, sewar and waste facility services. (Status: good for passage this Spring or Summer).

Rural Water Supply Assistance Act of 1989-Sen. Burdick (D-ND)—The bill would address the problem of providing adequate water supplies to small, sparsely-populated, rural communities. It would create a single-purpose revolving fund to incure appropriate water quality and quantity. (Status: in the Environment and Public Works Committee).

National Infrastructure Council Act of 1990-Sens. Burdick (D-ND), Moynihan (D-NY), Baucus (D-MT), Lautenberg (D-NJ), Warner (R-VA), Mitchell (D-ME), Bentsen (D-TX), Reid (D-NV), Lieberman (D-CT) and Breaux (D-LA)—The bill would establish a Council to coordinate technical assistance to communities needing advice on infrastructure issues and serve as a clearinghouse of information. (Status: in the Environment and Public Works Committee).

Environmental Infrastructure Act of 1989-Sens. Domenici (R-NM), and Boren (D-OK)—The bill is designed to restore some of the tax-exempt status previously enjoyed by government bonds prior to the passage of the Tax Reform Act of 1986. (Status: in the Senate Finance Committee).

ACWD
ALAMEDA COUNTY WATER DISTRICT

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District Secretary

ALAMEDA COUNTY WATER DISTRICT **INTER-OFFICE MEMORANDUM**

TO: BARBAR[illegible] [illegible]EI[illegible]CH - RCAC DATE: JUNE 9, 1989

FROM: JOHN MARCHAND - LABORATORY

SUBJECT: ADOPT-A-SMALL SYSTEM PROGRAM ASSISTANCE

The attached is a list of advice and information services which the Alameda County Water District could provide to small systems through the Adopt-A-Small-System Program proposed by RCAC. While the District could not provide routine, on-site assistance, small system operators and staff would be welcome to tour our facilities and meet with our technicians and advisors. The District could also provide limited training at our facilities in the areas indicated on the attached sheet. While this is, of course, not for general distribution to all 10,800 small systems in our state, it could serve and a guideline of the types of services which other larger systems and utilities could provide to smaller systems. Please keep me posted on the progress of the program.

Later this month, the Bay Area Resource Council, a group of the other large Bay Area water systems, will be meeting here at A.C.W.D. At that time, I will ask what services they could provide to small systems. I will keep you informed as to the results of the meeting.

c.c. Jim Beard, General Manager, A.C.W.D.
Phil Utic, Operations Manager
Doug Chun, Operations Superintendent

Appendix 2

ALAMEDA COUNTY WATER DISTRICT **INTER-OFFICE MEMORANDUM**

TO: ADOPT-A-SMALL SYSTEM PARTICIPANTS DATE: FEBRUARY 2, 1990

FROM: JOHN MARCHAND - LABORATORY

SUBJECT: ADOPT-A-SMALL SYSTEM PROGRAM

In August, 1989, the Alameda County Water District agreed to participate in an experimental program called the Adopt-a-Small System Program. The basic idea is to provide over-the-phone technical assistance or limited on-site orientation at A.C.W.D. locations for operators of small water systems.

Since this is a new and experimental program, there is no way to predict the volume of inquiries which we may receive. Even though the list was first circulated in August, 1989, to my knowledge, no one on the list has been contacted. I have included a copy of the resource list for your information. This memo may be a reminder to some and may be the first notification to others about this program.

If you should receive a call from someone identifying themselves as being from a small system, please give them the benefit of your expertise. Many of these operators may not know enough about their water systems to ask a decent question. The District is taking it upon itself to at least turn them in the right direction. If you are contacted by anyone, or have any questions about the program, please contact me.

Thank you.

Attachment

c.c. Attached list
J. Beard
P. Utic
C. Hill

ALAMEDA COUNTY WATER DISTRICT

Call list for technical assistance 1-(415) 659-1970

Laboratory sampling or testing procedures - John Marchand - ext. 522

Monitoring requirements - Michael Lanier - ext. 520

Backflow device testing and maintenance - Mike Branco - ext.579

Meter information and repair - Ed Limon - ext. 580

Emergency Operation Procedures - Orry Nottingham - ext. 570

New water main specifications and standards - Gary McGhie - ext. 410

Water Treatment Plant Operation - Rico Rossi - ext. 511

Training and safety films and videos - Bob Arington - ext. 212

Hazardous Materials - Jill Duerig - ext. 440

Operations and maintenance - Clark Armstrong - ext.573

Wells, general maintenance - Jim Edwards - ext. 517

Chemical handling and safety - Orry Nottingham - ext. 570

Corrosion Control - Toni Lyons - ext 480

Leak repairs - Hank Escobar - ext. 540

Computer systems and telemetry - Sam Yee - ext. 571

Sett[illegible] water rates - ~~Andy [illegible]~~ - ext. ext 308
RON PINO

Appendix Q

DRINKING WATER PROGRAM FACT SHEET

Steve Cowper
Governor

Dennis Kelso
Commissioner

Amy Kyle
Deputy Commissioner

Larry Dietrick
Director, Environmental Quality

Deena Henkins
Chief, Wastewater and Water Treatment

Charlene Denys, PhD
Manager, Drinking Water Program

Goal

To protect the health of all Alaskans by ensuring that drinking water from public water systems is safe.

Program Background

In 1974, the U.S. Congress passed the Safe Drinking Water Act which established minimum standards for all public water supply systems in the United States. The U.S. Environmental Protection Agency (EPA) was put in charge of this program and given the authority to delegate the responsibility to the individual states, so programs could be more responsive to the needs of individual states.

In Alaska, the Department of Environmental Conservation's (DEC) Drinking Water Program administers the program through the state Drinking Water Regulations. Various amendments to the original act and state regulations have since been added, as more is learned about how to do a better job of protecting the health of the public.

Issue

Many people assume that an environment which looks pristine means uncontaminated drinking water. This is not necessarily true! Even in unpopulated areas, disease-causing organisms such as Giardia lamblia from beavers or muskrats may contaminate the water, making it unsafe to drink without treatment. Other possible diseases caused by microorganisms or viruses in drinking water include salmonellosis, cholera, gastroenteritis, dysentery, hepatitis A, and typhoid fever.

High concentrations of minerals, such as lead and arsenic, or chemicals from agriculture, industry, mining, military operations, homes, or institutions can also contaminate untreated water. Since 1974, many chemicals have been linked to cancer, genetic mutations, and birth defects. In Alaska, contamination of underground drinking water sources by petroleum product leaks and spills is a particular problem.

Major Features

The major features of the Alaska Drinking Water Program include:

- Responding to water contamination emergencies
- Special-purpose sampling to identify and resolve contamination problems

Major Features (continued)

- Technical assistance to water system operators so they may do a better job in producing and delivering safe drinking water
- Sanitary surveys of public water systems to identify possible health problems
- Standards for new construction and operation
- Standards for public notification of problems/concerns with the water systems
- Maximum Contaminant Levels (MCLs) for inorganic chemicals
- MCLs for organic chemicals such as pesticides, volatile organics such as petroleum products, and the by-products produced when organic compounds are disinfected along with the microbiological contaminants
- MCLs for physical contaminants such as turbidity
- MCLs for microbiological contaminants such as coliform bacteria
- MCLs for radioactive contaminants
- Minimum separation distances between water sources and potential sources of contamination such as sewage treatment systems and fuel tanks
- Use of "lead-free" pipe, solder, and flux in water systems.

Progress to Date

- Implementation of 18 AAC 80 -- State of Alaska Drinking Water Regulations.
- 1989 proposed revision of the Drinking Water Regulations to include Volatile Organic Chemicals (VOCs) and enhance public notification procedures.
- Implementation of a ban of lead pipe and solder in repairs and new construction of drinking water systems that connect to public water supplies.

Activities in 1989 to 1990

Upcoming revisions to the Drinking Water Regulations to include:

- Surface water treatment regulations
- Increased coliform bacteria monitoring requirements
- Requirements for the disinfection of all public water supplies
- Increased monitoring for inorganic and organic contaminants
- Increased monitoring for lead in drinking water.

Program Benefits

The benefits of both the DEC and EPA Drinking Water programs are that they improve the public health and reduce the incidence of waterborne diseases of all Alaskans regardless of whether they live in the Bush or in town.

Appendix Q

DRINKING WATER PROGRAM STAFF

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Dennis Kelso
Commissioner

Amy Kyle
Deputy Commissioner

Larry Dietrick
Director, Environmental Quality

Deena Henkins
Chief, Wastewater and Water Treatment

Charlene Denys, PhD
Manager, Drinking Water Program

CENTRAL OFFICE (JUNEAU) ☎ 465-2656

Charlene Denys
Drinking Water Program Manager

Kerry Lindley
Environmental Engineer
Rural Water Systems Coordinator

NORTHERN REGIONAL OFFICE (FAIRBANKS) ☎ 452-1714

Stan Justice
Environmental Engineer
NRO Drinking Water Program Manager

Linda Hendershot
Environmental Field Officer

Plan review is performed at the Interior, Tok, Nome, and North Slope district offices. All other activity is conducted at the regional office.

SOUTHCENTRAL REGIONAL OFFICE (ANCHORAGE) ☎ 563-6529

Art Ronimus
Environmental Engineer
SCRO Drinking Water Program Manager

Lynette Dean
Environmental Field Officer

Plan review is performed at the Anchorage Western, Mat-Su, Kenai, and Prince William Sound district offices. Other activity is conducted at either the district or regional offices, depending on which district is involved.

SOUTHEAST REGIONAL OFFICE (JUNEAU) ☎ 789-3151

Ron Flinn
Environmental Field Officer
SERO Drinking Water Program Manager

Plan review is performed at the Juneau, Sitka, and Ketchikan district offices. Other activity is conducted at either the district or regional offices, depending on which district is involved.

Steve Cowper
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Manager, Drinking Water Program

Appendix Q

TEN MOST FREQUENTLY ASKED QUESTIONS ABOUT DRINKING WATER

1. WHERE DOES MY DRINKING WATER COME FROM?

There are two possible sources for drinking water: surface water or ground water. Lakes, reservoirs, streams, and rivers are "surface" water sources. Ground water is surface water that has percolated through the soil into underground aquifers. Ground water is the source of well water.

2. HOW DO I KNOW THAT MY WATER IS SAFE?

The DEC Drinking Water Program requires regular water testing of all water systems that regularly serve 25 or more people. Testing for bacteria is required monthly; testing for chemicals is required less frequently. State regulations require that all public water systems inform their customers of any failures to either perform the required testing or "pass" the test.

As a consumer, you are entitled to information regarding your water system: its test procedures, schedule, and performance record. Call your local water supply or DEC office for information.

Two groups of systems are not required to test their water on a regular basis: private systems (i.e., a well or a surface water source that serves only one single-family residence), and small systems that serve less than 25 people (for example, a 4-plex apartment building that has its own water source). There are no regulations to ensure that the water from these types of systems is tested regularly, or that consumers are informed of any existing hazards.

3. ON A DAILY BASIS, WHO MAKES SURE MY DRINKING WATER IS SAFE?

Your local water system operator ensures that your water is safe to drink. He or she makes sure the water plant is running correctly, applies whatever kind of treatment the water requires, samples the water on a regular basis, maintains test records, and notifies the public when a problem arises.

4. WHAT HAPPENS TO MY DRINKING WATER BEFORE IT GETS TO ME?

If you have a well, the water is most likely pumped directly from the well into your home or other watering point. For small surface systems, water is often piped to a holding tank, where chlorine or some other disinfectant is added to kill bacteria and other microorganisms that are commonly found in surface water. Larger systems may have more complex treatment: the water may be strained to remove debris, like branches and rocks, and treated with a coagulant to help make small particles settle to the bottom of a sedimentation tank. The water then may go through beds of gravel and sand for final filtering. The final step of treatment is to disinfect the water before it goes into the distribution system.

4. WHAT HAPPENS TO MY DRINKING WATER?... (continued)

State regulations require that your water system regularly test the water provided to consumers to make sure it is safe.

5. HOW CAN DRINKING WATER BECOME CONTAMINATED?

Drinking water contamination can come from many sources, which is why most drinking water is treated before it gets to the consumer.

Contamination **before** treatment can come from natural minerals and salts and human and animal organic waste. (Even though they are natural, some minerals and salts can be dangerous if consumed.) Leaking or corroded underground storage tanks, leaching landfills, agricultural runoff (containing fertilizers and pesticides), surface run-off (overflowing storm sewers, rainwater from oil-slicked or salt-treated roads), or improperly disposed chemicals are among the more common pollutants of drinking water.

Water can also sometimes be contaminated **after** treatment. For example, corrosion of certain piping materials can cause contamination with lead or asbestos. Also, bacteria and dirt can get into the water through leaking pipes.

6. WHAT ARE THE MOST COMMON DRINKING WATER CONTAMINANTS IN ALASKA?

Primary - **(Health hazard)** Coliform bacteria, turbidity, Giardia, arsenic, volatile organic chemical
Secondary - **(Aesthetics)** Iron, manganese, calcium, color

7. WHERE DO THE DRINKING WATER REGULATIONS COME FROM?

Congress passed the Safe Drinking Water Act in 1974. The Act required the U.S. Environmental Protection Agency (EPA) to set drinking water standards (called Maximum Contaminant Levels, or MCLs) for any contaminant that "may have an adverse effect on human health." In 1986, Congress amended the Act to lengthen the list of contaminants to be regulated to protect public health.

The Act also allowed the federal government to delegate the responsibility for operating the drinking water program to individual states.

The program was delegated to DEC in 1978. That means that every time the federal government sets standards, the state must set standards that are at least as strict as the federal standards and must enforce those standards. DEC is in the process of revising the state drinking water regulations to incorporate the new federal standards. The revision process is expected to continue for several more years, as new federal regulations come into effect.

8. WHO PAYS TO KEEP DRINKING WATER SAFE?

The cost of keeping drinking water safe is ultimately paid by the consumer, through utility bills and, in some cases, taxes. Water system bills defray the cost of running the water plant, testing to make sure the water is safe, and the purchase of new equipment to solve contamination problems. In some areas, taxes help pay for building new water systems and modifying older ones to meet drinking water standards.

The state also pays for part of the operation of the state Drinking Water Program. (About half of the state Drinking Water Program is paid for by a grant from the U.S. Environmental Protection Agency.)

Currently, the average cost of drinking water in Alaska is a great value: one penny buys 80 8-ounce glasses of treated drinking water.

9. WHAT ROLE DOES DEC PLAY IN KEEPING ALASKA'S DRINKING WATER SAFE?

DEC Drinking Water Program personnel review plans for new or modified water plants to ensure the water system is properly engineered and will be capable of serving safe water; they assist water system operators and owners in meeting the requirements of the regulations; and they ensure that systems test their water as they should, and that the results are acceptable. If test results indicate there is a problem, DEC works with the system operator to solve the problem. DEC also enforces its regulations to make sure that drinking water is kept safe for all consumers.

10. IF MY WATER IS FILTERED AND DISINFECTED AT THE TREATMENT PLANT, WILL AN ADDITIONAL FILTER ON MY TAP MAKE MY WATER EVEN SAFER?

Tap water from Class A or Class B public water systems should be safe from primary, health-threatening, contaminants. Although secondary contaminants, those that affect the color, odor, or taste of treated drinking water, do not pose a health risk, the consumer may wish to remove them prior to consumption. Chlorine is one of the most common substances that consumers commonly prefer to remove at the tap. While the smell and taste of chlorine assures the consumer that the water has been treated to remove pathogens, a granular activated-carbon (GAC) filter attached to the tap is a reliable means of removing the smell and taste of chlorine. **A word of caution about GAC and other "point of use filters:"** Any filter must be regularly maintained to ensure proper operation and cleaned to remove bacterial growth that actually can increase bacteria levels in the water as it comes from the tap.

ALASKA DEPARTMENT
OF
ENVIRONMENTAL
CONSERVATION

GLOSSARY OF DRINKING WATER TERMS

Acute Exposure: A single exposure to a toxic substance which results in severe biological harm or death. Acute exposures are usually characterized as lasting no longer than a day.

Acute Toxicity: The ability of a substance to cause poisonous effects resulting in severe biological harm or death soon after a single exposure or dose. Also, any severe poisonous effect resulting from a single short-term exposure to a toxic substance.

Algae: Simple rootless plants that grow in sunlit waters in relative proportion to the amounts of nutrients available. They can affect water quality adversely by lowering the dissolved oxygen in the water. They are food for fish and small aquatic animals.

Background Level: In toxic substances monitoring, the average presence in the environment, originally referring to naturally occurring phenomena.

Bacteria: (Singular: bacterium) Microscopic living organisms which can aid in pollution control by consuming or breaking down organic matter in sewage, or by similarly acting on oil spills or other water pollutants. Bacteria in soil, water or air can also cause human, animal and plant health problems.

Carcinogen: Any substance that can cause or contribute to the production of cancer.

Carcinogenic: Cancer-producing.

Chlorination: The application of chlorine to drinking water, sewage, or industrial waste to disinfect or to oxidize undesirable compounds.

Chlorinator: A device that adds chlorine, in gas or liquid form, to water or sewage to kill infectious bacteria.

Chlorine-Contact Chamber: That part of a water treatment plant where effluent is disinfected by chlorine.

Coliform Organism: Microorganisms found in the intestinal tract of humans and animals. Their presence in water indicates fecal pollution and potentially dangerous bacterial contamination by disease-causing microorganisms.

Community Water System: A public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Confined Aquifer: An aquifer in which ground water is confined under pressure which is significantly greater than atmospheric pressure.

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Contaminant: Any physical, chemical, biological, or radiological substance or matter that has an adverse effect on air, water, or soil.

Disinfectant: A chemical or physical process that kills pathogenic organisms in water. Chlorine is often used to disinfect sewage treatment effluent, water supplies, wells, and swimming pools.

Epidemic: Widespread outbreak of a disease, or a large number of cases of a disease in a single community or relatively small area.

Fecal Coliform Bacteria: Bacteria found in the intestinal tracts of mammals. Their presence in water or sludge is an indicator of pollution and possible contamination by pathogens.

First Draw: The water that immediately comes out when a tap is first opened. This water is likely to have the highest level of lead contamination from plumbing materials.

Fluorosis: An abnormal condition caused by excessive intake of fluorine, characterized chiefly by mottling of the teeth.

Flush: 1. To open a cold-water tap to clear out all the water which may have been sitting for a long time in the pipes. In new homes, to flush a system means to send large volumes of water gushing through the unused pipes to remove loose particles of solder and flux. 2. To force large amounts of water through liquid to clean out piping or tubing, storage or process tanks.

Fresh Water: Water that generally contains less than 1,000 milligrams-per-liter of dissolved solids.

Ground Water: The supply of fresh water found beneath the Earth's surface, usually in aquifers, which is often used for supplying wells and springs. Because ground water is a major source of drinking water there is growing concern over areas where leaching agricultural or industrial pollutants or substances from leaking underground storage tanks are contaminating ground water.

Hard Water: Alkaline water containing dissolved salts that interfere with some industrial processes and prevent soap from lathering.

Heavy Metals: Metallic elements with high atomic weights, e.g., mercury, chromium, cadmium, arsenic, and lead. They can damage living things at low concentrations and tend to accumulate in the food chain.

Hydrogeology: The geology of ground water, with particular emphasis on the chemistry and movement of water.

Hydrology: The science dealing with the properties, distribution, and circulation of water.

Infiltration: The penetration of water through the ground surface into sub-surface soil or the penetration of water from the soil into sewer or other pipes through defective joints, connections, or manhole walls.

Influent: Water, wastewater, or other liquid flowing into a reservoir, basin, or treatment plant.

Interstate Carrier Water Supply: A source of water for drinking and sanitary use on planes, buses, trains, and ships operating in more than one state. These sources are federally regulated.

Leachate: A liquid that results from water collecting contaminants as it trickles through wastes, agricultural pesticides or fertilizers. Leaching may occur in farming areas, feedlots, and landfills, and may result in hazardous substances entering surface water, ground water, or soil.

Lead (Pb): A heavy metal that is hazardous to health if breathed or swallowed. Its use in gasoline, paints, and plumbing compounds has been sharply restricted or eliminated by federal laws and regulations. (See: heavy metals.)

Million-gallons Per Day (MGD): A measure of water flow.

Microorganism: Living organisms so small that individually they can usually only be seen through a microscope.

Multiple Use: Use of land for more than one purpose; i.e., grazing of livestock, wildlife production, recreation, watershed, and timber production. Could also apply to use of bodies of water for recreational purposes, fishing, and water supply.

Non-Community Water System: A public water system that is not a community water system; e.g., the water supply at a camp site or national park, school, factory or restaurant.

Non-Conventional Pollutant: Any pollutant which is not a statutorily listed or which is poorly understood by the scientific community.

Non-Point Source: Pollution sources which are diffuse and do not have a single point of origin or are not introduced into a receiving stream from a specific outlet. The pollutants are generally carried off the land by stormwater runoff. The commonly used categories for non-point sources are: agriculture, forestry, urban, mining, construction, dams and channels, land disposal, and saltwater intrusion.

Organism: Any living thing.

Pathogens: Microorganisms that can cause disease in other organisms or in humans, animals and plants. They may be bacteria, viruses, or parasites and are found in sewage, in runoff from animal farms or rural areas populated with domestic and/or wild animals, and in water used for swimming. Fish and shellfish contaminated by pathogens, or the contaminated water itself, can cause serious illnesses.

Percolation: The movement of water downward and radially through the sub-surface soil layers, usually continuing downward to the ground water.

Point Source: A stationery location or fixed facility from which pollutants are discharged or emitted. Also, any single identifiable source of pollution, e.g., a pipe, ditch, ship, ore pit, factory smokestack.

Pollutant: Generally, any substance introduced into the environment that adversely affects the usefulness of a resource.

Pollution: Generally, the presence of matter or energy whose nature, location or quantity produces undesired environmental effects. Under the Clean Water Act, for example, the term is defined as the man-made or man-induced alteration of the physical, biological, and radiological integrity of water.

Potable Water: Water that is safe for drinking and cooking.

Pumping Station: Mechanical devices installed in sewer or water systems or other liquid-carrying pipelines that move the liquids to a higher level.

Reservoir: Any natural or artificial holding area used to store, regulate, or control water.

Riparian Rights: Entitlement of a land owner to the water on or bordering his property, including the right to prevent diversion or misuse of upstream waters. Generally, a matter of state law.

Run-Off: That part of precipitation, snow melt, or irrigation water that runs off the land into streams or other surface water. It can carry pollutants from the air and land into the receiving waters.

Salinity: The degree of salt in water.

Sand Filters: Devices that remove some suspended solids from sewage. Air and bacteria decompose additional wastes filtering through the sand so that cleaner water drains from the bed.

Maximum Contaminant Level: Maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of a water supply, the consumer, or of contamination resulting from corrosion of piping and plumbing caused by water quality.

Semi-Confined Aquifer: An aquifer that is partially confined by a soil layer (or layers) of low permeability through which recharge and discharge can occur.

Soft Water: Any water that is not "hard," i.e., does not contain a significant amount of dissolved minerals such as salts containing calcium or magnesium.

Solder: A metallic compound used to seal the joints between pipes. Until recently, most solder contained 50 percent lead. The use of lead solder is now prohibited for pipes carrying potable water.

Sole Source Aquifer: An aquifer that supplies 50 percent or more of the drinking water of an area.

Surface Pump: A mechanism for removing water or wastewater from a sump or wet well.

Surface Water: All water naturally open to the atmosphere (rivers, lakes, reservoirs, streams, impoundments, seas, estuaries, etc.) and all springs, wells, or other collectors which are directly influenced by surface water.

Toxic: Harmful to living organisms.

Toxic Pollutants: Materials contaminating the environment that cause death, disease, birth defects in organisms that ingest or absorb them. The quantities and length of exposure necessary to cause these effects can vary widely.

Toxic Substance: A chemical or mixture that may represent an unreasonable risk of injury to health or the environment.

Toxicant: A poisonous agent that kills or injures animal or plant life.

Toxicity: The degree of danger posed by a substance to animal or plant life. (See: acute toxicity.)

Toxicology: The science and study of poisons control.

Trihalomethane (THM): One of a family of organic compounds, named as derivatives of methane. THMs are generally the by-product from chlorination of drinking water that contains organic material.

Turbidimeter: A device that measures the amount of suspended solids in a liquid.

Turbidity: 1. Haziness in air caused by the presence of particles and pollutants. 2. A similar cloudy condition in water due to suspended silt or organic matter.

Urban Runoff: Stormwater from city streets and adjacent domestic or commercial properties that may carry pollutants of various kinds into the sewer systems and/or receiving waters.

Virus: The smallest form of microorganisms capable of causing disease.

Watershed: The land area that drains into a stream.

Water Supplier: A person who owns or operates a public water system.

Water Supply System: The collection, treatment, storage, and distribution of potable water from source to consumer.

Water Solubility: The maximum concentration of a chemical compound which can result when it is dissolved in water. If a substance is water soluble, it can very readily disperse through the environment.

Water Table: The level of ground water.

Well: A bored, drilled, or driven shaft, or a dug hole, whose depth is greater than the largest surface dimension and whose purpose is to reach underground water supplies or oil, or to store or bury fluids below ground.

Well Monitoring: The measurement, by on-site instruments or laboratory methods, of the quality of water in a well.

Well Plug: A watertight and gastight seal installed in a bore hole or well to prevent movement of fluids.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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Manager, Drinking Water Program

Appendix 2

HEPATITIS A

Hepatitis A, previously known as "infectious hepatitis," is a viral disease that has been and continues to be a problem in Alaska.

Hepatitis A may spread in epidemic fashion by drinking contaminated water or by inadequate hand washing by food handlers or by eating raw shellfish which were raised in water polluted by sewage. Improper handling of drinking water in areas without piped distribution systems can be a major contributing factor in those communities.

In Alaska, hepatitis A often occurs in a cyclic pattern. It begins when a population experiences on outbreak, after which it is immune to further outbreaks. No new cases occur for five or 10 years -- until there is a new generation (mostly children) which has not previously been exposed. Another outbreak occurs and that new generation becomes immune. Every five to 10 years, the pattern repeats itself.

There is no treatment for hepatitis A. Immune globulin, if given immediately after exposure, can sometimes prevent illness in contacts. It is not fully protective. The only real protection against hepatitis A is good personal hygiene, proper treatment and handling of drinking water, and proper disposal of human wastes.

Once a person has the disease, he or she is immune to reinfection. Work is ongoing to develop a vaccine, but none is ready yet.

Hepatitis A should not be confused with hepatitis B (formerly serum hepatitis). This type is usually spread through blood products or bodily fluids and is usually much more serious. Fortunately a preventative vaccine has been developed for hepatitis B.

Symptons of hepatits A include nausea, vomiting, muscles aches and jaundice which occurs approximately 15 to 45 days after exposure. This long incubation period makes it difficult to relate the illness to the consumption of contaminated water.

ALASKA DEPARTMENT
OF
ENVIRONMENTAL
CONSERVATION

Steve Cowper
Governor

Dennis Kelso
Commissioner

Amy Kyle
Deputy Commissioner

Larry Dietrick
Director, Environmental Quality

Deena Henkins
Chief, Wastewater and Water Treatment

Charlene Denys, PhD
Manager, Drinking Water Program

GIARDIA

Giardia lamblia is the single-celled animal (protozoan) which causes the disease giardiasis, or "beaver fever". This organism is carried by warm-blooded animals and has become the most common waterborne disease in the U.S.

In Alaska, DEC is very concerned about the possibility that this disease may be spread by public water systems that use surface water sources. The occurrence of this organism in the animals that live in the watersheds of public drinking water supplies, particularly beaver and muskrat, is of particular concern. Adequate treatment of this water is the only protection from infection since there are no preventative medicines or vaccines for this disease.

This organism can exist in both the free-swimming (trophozoite) form which lives in the intestines of warm-blooded animals, or in the cyst or dormant form. The cyst form is very resistant and can survive outside of an infected animal for a long time. Drinking untreated water contaminated with as few as one to ten cysts is enough to cause infection. The cyst form is the main concern of water treatment plants since the free-swimming form cannot survive for long outside of a carrier on its own.

The new EPA surface water treatment rules will require filtration for most surface water systems and specific disinfectant concentrations and contact times to treat surface waters for Giardia. (Under the previous standards, chlorine concentrations and contact times were established for bacteria, not single-celled animals.) After much research, new standards and treatment techniques have been devised to protect against Giardia cysts.

Giardiasis may also spread through direct person-to-person contact. The spread of the disease among children at day-care centers is fairly common. In such cases, cleanliness and proper hand washing is the key to prevent infection.

Symptoms of giardiasis usually occur from one to four weeks after infection and include explosive, watery, foul-smelling diarrhea, gas in the stomach or intestines, nausea, and loss of appetite. Giardiasis is treated by one or more of the four commonly prescribed drugs available in the U.S. Because there are no drugs that can prevent the disease, water treatment is the only means of preventing it. Boiling water for 20 minutes is an effective means of killing the giardia organism in small quantities of water.

Appendix Q

ALASKA DEPARTMENT
OF
ENVIRONMENTAL
CONSERVATION

CRYPTOSPORIDIUM

Steve Cowper
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Amy Kyle
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Deena Henkins
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Charlene Denys, PhD
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Cryptosporidium has been called the "new super-bug" of the water treatment industry. It, like Giardia lamblia, is a single-celled protozoan that resists chlorination.

Almost any animal found in a watershed may serve as a host to this organism, including birds, fish, and reptiles. In a rural setting, cattle seem to be the most common animal-to-human carrier. In urban settings, bacterial contamination from day-care centers, sexual activities, food-handling, and water storage and handling are common sources.

As with Giardia, Cryptosporidium exists in either the free-swimming, trophozoite form or the dormant oocyst form. One oocyst is enough to cause an infection and the symptoms include diarrhea, stomach cramps, nausea, dehydration, and headaches.

Presently, there is no cure for cryptosporidiosis, but the disease is self-limiting in individuals with healthy immune systems. However, once infected, the host is a life-time carrier and subject to relapses. Among people with suppressed immune systems, such as those infected with acquired immune deficiency syndrome (AIDS), the disease is life-threatening and is, in fact, a major cause of death among AIDS patients.

Water treatment for Cryptosporidium must rely on properly designed and operated filtration systems. Chlorine disinfection of the organism is ineffective. One study has shown that the oocyst can withstand pure bleach (50,000 parts-per-million chlorine) for 24 hours and still cause an infection! Boiling water for as little as one minute, however, will kill the organism.

So far there have only been two confirmed outbreaks of cryptosporidiosis in the U.S. There have probably been more, but, until recently, both cryptosporidiosis and giardiasis have been diagnosed as acute gastroenteritis.

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Manager, Drinking Water Program

OTHER DISEASES

Of all the reported cases of waterborne diseases in the U.S. from 1920 to 1980, only 56% of them could be traced to an identifiable cause. The remaining 44% were classified as "acute gastroenteritis," characterized by symptoms of abdominal cramps, nausea, vomiting, and diarrhea occurring from 12 to 48 hours after consuming contaminated water. In many of these cases, the search for the cause of the outbreak was either limited to those organisms that are easily identified, or a qualified specimen was either not taken or not taken in a timely manner.

Despite advances in laboratory techniques, water sampling techniques, and knowledge of newly recognized and identifiable disease agents, causes of outbreaks frequently cannot be determined. The challenge of supplying safe water continues.

In the interim, the best means of assuring that drinking water from a surface source is safe is to employ the old standbys: chlorination and filtration, or boiling.

Appendix 2

August 1990

DEPARTMENT OF ENVIRONMENTAL SERVICES
State of New Hampshire
P.O. Box 95, Hazen Drive
Concord, NH 03301-6528
603-271-3445/3446

Radon Facts

Does your household water come from a well? If so, you may have radon gas in your water.

Radon gas is normally found in all wells but particularly in bedrock (sometimes called "drilled" or "artesian") wells. If you obtain your water from such a source, you may want to know to what degree radon gas is present in your water. Every well has some radon. The important question is how much.

What is Radon?

Radon is a radioactive gas produced through the decay of naturally occurring radioactive minerals in soil and rocks. It is colorless, odorless, and tasteless. Radon gas can dissolve in water and later be released into the air during such normal household activities as showering. Radon gas can also enter a home directly from the soil beneath and around the building. When trapped in an enclosed space (such as indoors), radon gas can accumulate and pose a significant health risk.

Health Effects

Radon gas is unusual among drinking water contaminants in that it is not normally harmful when consumed. The primary risk from exposure to radon gas is through breathing. Studies show that high levels of radon gas in the air increase the risk of lung cancer.

How Much is Too Much?

Radon gas in air or in water is measured in pCi/L. Generally, a radon gas concentration of 10,000 pCi/L in water can be expected to increase the radon level of the air by 1 pCi/L.

The U.S. Environmental Protection Agency (EPA) has set a radon "action level" of 4 pCi/L for radon gas in indoor air. While not a health standard, this level is a guideline for people to use in assessing the seriousness of their exposure. Above this level, a homeowner should consider some remedial action to reduce the radon present in the air. Appropriate actions could include water treatment and/or remedial construction actions such as basement venting or sealing.

EPA is currently considering options for a new federal drinking water standard between 200 and 2,000 pCi/L for radon. We expect that up to [illegible]0% of the bedrock wells in New Hampshire would fail such a future EPA standard.

Testing

Because *breathing* radon gas is considered to be a greater health risk than *drinking* water containing radon gas, testing your air for radon gas is usually more important than testing your water. However, if the level of radon in the air of your home is high, you should find out the level of radon in your water, since its removal may be an effective means of reducing the airborne levels in your home.

Air: Test kits may be obtained from ~~Chris [illegible]~~ the NH Department of Health and Human Services at 271-4674. A number of commercial laboratories also perform air tests for radon gas and kits are available from many hardware and discount stores. the cost can be from $15 to $40 per test.

Water: A test for radon gas in your drinking water requires approximately three weeks for processing and costs $15. A container for the radon water test may be obtained from the DES Water Laboratory by calling 271-3445/3446.

Other Radionuclides

In addition to radon gas, other minerals such as radium and uranium may produce dissolved radioactivity in your drinking water. A test of your drinking water for radon gas does not necessarily indicate the presence or absence of any other mineral radionuclides, nor does a positive test for these dissolved minerals imply the presence of excessive amounts of radon gas. In other words, it will take two laboratory tests of your drinking water, one for dissolved radioactivity, the other for radon gas, to address the radioactivity potential of your water. For more information, we recommend that you contact the NH Dept. of Health and Human Services, Radiological Health Program, at 217-4585.

Treatment

In most cases, removal of radon from indoor air is the most effective means of reducing one's risk from exposure to radon. The most commonly used reduction method for radon gas in air is soil gas ventilation or suction, which works by drawing away radon gas under and around the house. Preventive measures such as sealing off potential radon gas entry routes into the house (cracks in floors and walls) are also effective. In new construction, the problem of radon gas entry from the soil may be avoided by providing escape routes for the gas so that it does not build up in the soil and enter the house.

For more information on treatment removal methods for radon in water, contact the DES Water Quality Engineering Bureau at 271-3139. For information about radon reduction methods in your home's air, contact DHHS, 271-4674.

August 1990

DEPARTMENT OF ENVIRONMENTAL SERVICES
State of New Hampshire
P.O. Box 95, Hazen Drive
Concord, NH 03301-6528
603-271-3445/3446

Arsenic Facts

Does your household water come from underground water supplies? If so, you may have arsenic in your water.

Arsenic is frequently found in bedrock wells (sometimes called "drilled" or "artesian" wells). Many wells have some arsenic. The important question is how much.

Where Does Arsenic Come From?

Arsenic occurs naturally in wells throughout the United States. Geological reports dating back to the late 1890's testify to the presence of arsenic in NH bedrock. Other sources of arsenic in the environment include meats, fish, shellfish, wines, cigarettes, and leafy vegetables.

Health Effects

Some studies suggest that arsenic may be a carcinogen when inhaled or ingested; other studies indicate that trace amounts of arsenic may be essential for metabolism. Elevated levels of arsenic in water, however, have been associated with chronic gastro-intestinal upset, diarrhea, liver damage, nervous system changes, blood imbalance, and skin changes. There is no need to treat water used for bathing, toilet, washing, or other non-consumption uses.

If you have specific questions about arsenic's effect on you or your family, you should contact your personal physician. For more general information on arsenic's health effects, contact the Environmental Health Risk Assessment Unit of the Division of Public Health Services (271-4664).

How Much is Too Much?

The U.S. Environmental Protection Agency (EPA) has established a Maximum Contaminant Level for arsenic in public drinking water supplies of .05mg/L. This figure may also be expressed as parts per billion (ppb) or parts per million (ppm) [.05 mg/L = .05 parts per million = 50 parts per billion]. EPA's health standard is based on the consumption, by a normal adult male, of two liters (approximately 2 quarts) of water per day for a lifetime (70 years).

Within the next year, EPA is expected to propose a revised standard for arsenic that will be more stringent than the current standard.

If the water in your well has an arsenic concentration over .05 mg/L, the U.S. standard, we recommend that you use an alternate supply of water for drinking and cooking, or install a device to treat your drinking water.

Testing

Because arsenic concentrations in well water vary with the seasons, we recommend that several tests of the water be taken over a period of months to determine the true average arsenic concentration. The NH Department of Environmental Services Laboratory (271-3445) will test your water for arsenic for a $10 charge. A number of private laboratories in the state also test for arsenic.

Corrective Action

There are two basic options: 1) ~~to~~ construct a new and possibly different type of well, or 2) install a treatment system for your existing well.

New well:

Substitution of a shallow dug well may reduce the arsenic in your water, but such a well may also be affected by backyard activities or surface water runoff.

It is possible that a new bedrock well in a different location will provide water with lower levels of arsenic. If you have a large lot, this may be an option. However, you should check first to see if the arsenic levels of all neighboring bedrock wells are low before investing in a new bedrock well.

Treatment Devices:

Our experience over the past decade indicates that the simplest and most cost-effective treatment to remove arsenic from drinking water is activated alumina. Only a few gallons of water need to be treated per day. (Typically 2-4 gallons per day will provide enough water for drinking and cooking purposes.) Water passes through the cartridge of activated alumina into a small storage tank which holds the arsenic-free water until needed.

This device installs easily under the sink and is relatively inexpensive. You must be sure to replace the cartridge regularly, as arsenic levels will begin to rise when the capacity of the cartridge is exceeded. The old cartridge may be disposed of along with your household trash. Other treatment options include reverse osmosis and deionization.

Appendix R

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Summary of National Organizations' Activities in Support of the Mobilization Strategy

Part 1 - Major Associations

JUN 12 1990

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
American Water Works Association (AWWA) AWWA is an international, non-profit, scientific, and educational association dedicated to safe drinking water. It was formed to promote public health, safety, and welfare through the improvement of the quality and quantity of water delivered to the public and the development of public understanding of the industry. The association has nearly 50,000 members including water utility managers, superintendents, engineers, chemists, bacteriologists, and others interested in public water supply; municipal and investor owned water departments; boards of health; manufacturers of waterworks equipment; government officials and consultants interested in water supply. 666 W. Quincy Avenue Denver, CO 80235 (303) 794-7711 John Mannion, Executive Director 1010 Vermont Avenue, N.W. Washington, D.C. 20005 Jack Sullivan, Washington Representative (202) 628-8303 Trudie Lay, Small Systems Coordinator (303) 794-7711, ext. 2309	o Working through its sections, AWWA is providing valuable support for State drinking water program capacity building efforts in a number of States. o Serving on the Steering Committee for the National Training Strategy. o Collaboration on National Drinking Water Week. o Participating in the Low-Cost Small System treatment technology initiative. o AWWA's small systems effort is closely coordinating with and expressing strong public support for the Mobilization strategy. o Received Grant to develop 11 outreach strategies for use by outreach providers o Managing P3 grant for PA Mobile Home Park Cooperative. o Received Grant from Region 8 for Mobilization to communicate the impact of radionuclide contaminants on small drinking water systems in Wyoming. o Regularly receives Updates on status of National Pesticide Survey. o Briefed one-on-one by NPS staff.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
Association of Metropolitan Water Agencies (AMWA) AMWA represents the interests and concerns of the nation's largest water supply agencies. 1717 K Street, N.W., Suite 1006 Washington, D.C. 20036 Diane Van de Hei, Executive Director (202) 331-2820	o Collaboration on National Drinking Water Week. o Through its member systems, support the State capacity initiative. o Some member systems are providing outreach and technical assistance to small systems located near their own operating area. o Regularly receives Updates and health effects materials from National Pesticide Survey.
Association of State Drinking Water Administrators (ASDWA) ASDWA is the professional association that represents the collective interests of State drinking water programs. Members of the association are the drinking water program administrators in the States and territories. Other State and local drinking water personnel may be associate members. ASDWA works to meet communication and coordination needs of state drinking water program managers; facilitates the exchange of information and experience among state drinking water agencies and serves as a liaison with Congress and U.S. EPA.	o Received a grant to assist with the State drinking water program capacity building initiative. Providing consultation and advise to selected States. Tracking State program capacity building efforts nationwide. o Collaborated with ODW in reviewing State Compliance Assurance Plan grant proposals. o Serving on the steering committee for the National Training Strategy o Participating in the Low-Cost Small System Treatment Technology Initiative.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
1911 N. Fort Myer Drive, Suite 1100 Arlington, VA 22209 (703) 524-2428 G. Wade Miller, Executive Director Lori O'Toole (703) 524-2428	o Collaboration on National Drinking Water Week. o Regularly receives Updates on status of National Pesticide Survey and health effects materials. o Received a grant to facilitate state participation in National Pesticide Survey pilot program.
Association of State and Territorial Health Officials (ASTHO) Executive officers of state and territorial health departments. Represents state and territorial health officers on matters of federal health, legislation, and policies; aids public or private agencies dealing with human health, especially in interstate and federal relationships. 6728 Old McLean Village Drive McLean, Virginia 22101 (703) 556-9222 George Degnon, Executive Director Joy Silver (703) 556-9222	o Briefed several times on the State Capacity Initiative - ASTHO has indicated an interest in supporting our efforts - we are currently discussing possible specific actions with them. o Participated in review of National Pesticide Survey public information materials. o Briefed one-on-one by NPS staff. o Regularly receives NPS Update and health effects materials.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	**MOBILIZATION INVOLVEMENT**
Association of State and Territorial Public Health Laboratory Directors (ASTPHLD) **ASTPHLD facilitates the sharing of information and techniques in diagnostic and analytical professional laboratory work. Its membership is comprised of the laboratory directors in the States and territories.**	o The Health Effects Branch is working with the association to facilitate information transfer to the laboratory directors. o The association has been briefed on Mobilization and has expressed an interest in maintaining a dialogue with us.
Chemical Manufacturers Association (CMA) **Manufacturers of basic chemicals who sell a substantial portion of their production to others. Administers research in areas of broad import to chemical manufacturing, such as air and water pollution control, and other special research programs. Conducts committee studies, workshops, and technical symposia. Promotes in-plant safety through incentive programs and annual awards.** **2501 M Street, N.W.** **Washington, D.C. 20037** **(202) 887-1100** Dr. Brenda Cuccherini	o Association provided with information on the requirements for non-transient non-community systems. o **Met with Jeff Hass 5/90 to discuss possible Mobilisaiton activities.** o **DuPont has conducted a Safe Drinking Water Workshop that Jeff Hass spoke at discussing NTNC systems.** o **CMA is interested in working with DuPont and other members to develop a big brother help networks.**

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
National Bank for Cooperatives (CoBank) A $12 million financial institution, (cooperative bank) specializing in agricultural and utility financing. CoBank is a consolidation of 11 strong banks for cooperatives that joined efforts in January, 1989. P.O. Box 5110 Denver, Colorado 80217 Street location: 5500 South Quebec Street Englewood, CO 80111 (303) 740-4000 W. M. Harding	o Conducting demonstration project in cooperation with RCAC on financing and outreach for small water and wastewater systems. P3 funding through OMPC.
Cooperative Extension Service (CES) Informal non-classroom educational system on agricultural, home economics, natural resources and youth programs. Affiliated with land grant colleges and universities and in partnership with county, state, and federal governments for funding and program development.	o CES has been briefed on the Mobilization Initiative and we have continued the dialogue. We have agreed to meet regularly to discuss possible cooperative efforts. o CES has provided the Regional Mobilization Coordinators with guidance and information on working with State extension programs.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
USDA Cooperative Extension Service Room 3347 South 14th & Independence Ave., SW Washington, D.C. 20250-0900 Fred Swader (202) 250-0900 Cynthia Garman-Squier (202) 447-5245 Cathy Burwell (202) 447-4682	o State extension programs make information on safe drinking water available to consumers. o CES is interested in forming a joint effort to provide training to small communities on drinking water issues. On the steering committee for the National Training Strategy. o Collaboration on National Drinking Water Week. o **Promoted __Meeting the Challenge__ on their electronic mail system to State CES Water Quality Coordinators. Coordinators in KS, NC and Headquaters have requested additional copies.**
__Council of Infrastructure Financing Authorities(CIFA)__ **The purposes of CIFA are to: educate infrastructure financing agencies, other public officials and the general public concerning the sources, methods and needs for financing public infrastructures in the U.S.; engage in research and policy analyses; represent infrastructure financing authorities before public bodies and officials.** 300 Metropolitan Square 655 Fifteenth Street, NW Washington, D.C. 20005 (202) 347-6333	o CIFA has been briefed on Mobilization and strongly supports the effort. Several joint conferences have been held on issues related to financing drinking water infrastructure in small systems. o CIFA has published an article on the Mobilization effort in their newsletter.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
Council of State Governments Joint agency of all state governments. Works to strengthen state governments by: improving administrative and managerial capability and performance, promoting intergovernmental cooperation; collecting, processing, generating, and disseminating information needed by states, assisting states in solving specific problems of policy formulation and operations; serving as a catalyst on issues and opportunities affecting the states. Iron Works Pike Box 11910 Lexington, KY 40578 (606) 252-2291 Steven Brown, Dir., Center for the Environment and Natural Resources	o Presently applying for grant to work with National Conference of State Legislatures in addressing problems of small systems.
Edison Electric Institute (EEI) Investor-owned electric utility companies operating in the U.S. Has affiliate members in North, Central, and South America. 1111 19th St., NW Washington, DC 20036 William Fang (202) 778-6617 C. Richard Bozek (202) 778-6641	o Institute has been briefed on requirements for non-transient non-community systems and is interested in follow-up activities. o **Met with Jeff Hass 5/90 to discuss possible cooperative efforts.**

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
Farmers Home Administration (FmHA) The (FmHA) is authorized to provide financial assistance for water and waste disposal facilities in rural areas and towns of up to 10,000 people. FmHA funds are allocated among the States based on rural population and poverty level.	o FmHA has been briefed on Mobilization. o Engaged in an ongoing dialogue.
Grocery Manufacturers of America (GMA) Manufacturers of food and non-food products sold through grocery trade. Promotes high standards in the manufacture and distribution of grocery products. 1010 Wisconsin Avenue, N.W., Suite 800 Washington, D.C. 20007 (202) 337-9400 George Koch, President Marsha McNeil (202) 337-9400 Paul Bruns, Ph.D. Nabisco Brands Inc. 200 DeForest Ave. P.O. Box 1944 East Hanover, NJ 07936-1944 (201) 503-4186	o Association has been briefed on the requirements for non-transient non-communities and is interested in supporting State Capacity and Public Education activities. o **Their Environmental Task Force met with Jeff Hass and Peter Shanaghan 5/90 to discuss possible cooperative efforts.** o **Has offered to print and distribute some of our public education materials. We have sent them samples of our publications.** o **Interested in developing big brother help networks.**

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
League of Women Voters Education Fund (LWVEF) Educational arm of the League of Women Voters of the United States. Conducts a variety of research and educational activities related to public policy issues. Activities include: developing objective information on important national issues, sponsoring regional community seminars on issues such as election systems, land use, national security, and techniques for more effective citizen participation in government. 1730 M Street, N.W., Suite 1000 Washington, D.C. 20036 (202) 429-1965 Grant Thompson, Executive Director Elizabeth Kraft, Director of Natural Resources X266 Valerie Strauss, Agricultural Chemicals	o Has received a grant to produce public education video. o Variety of activities in the public education area. o Participated in focus group on public attitudes toward drinking water and pesticides. o Participated in early planning discussions for National Pesticide Survey. o Reviewed public information materials for NPS. o Participated in focus group on public attitudes toward drinking water and pesticides. o Regularly receives Updates on status of NPS.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
National Association of County Health Officials (NACHO)	
Organization of county health officials. Purposes are to: stimulate and contribute to the improvement of county health programs and public health practices throughout the U.S.; disseminate information on county health programs and practices; participates in the formulation and advancement of the policies of the National Association of Counties. 440 First Street, N.W., Suite 500 Washington, D.C. 20002 (202) 783-5550 Nancy Rawding, Executive Director	o Has established a formal agreement with the Local Health Officials Initiative. o Co-sponsored focus group for Local Health Officials to review information products at National Meeting. o Regularly publishes drinking water related articles in their newsletter. o Collaborating on National Drinking Water Week. o Represented on National Pesticide Survey's Regional/State/County Workgroups. o Reviewed public information NPS materials. o Regularly receives Updates on NPS status. o Frequent one-on-one breifings by NPS staff.
National Association of Towns and Townships (NATaT)	
Federation of state organizations and individual communities. To provide technical assistance, educational services, and public policy support to local government officials of small communities across the country. Conducts research and develops public policy	o Maintaining an open dialogue. NaTAT has expressed an interest in publishing drinking water related articles.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION		MOBILIZATION INVOLVEMENT
recommendations to help improve the quality of life for people living in small communities. Sponsors educational conferences and training workshops. 1522 K Street, N.W., Suite 730 Washington, D.C. 20005 (202) 737-5200 Jeffrey H. Schiff, Executive Director		
National Association of Water Companies (NAWC) Privately and commercially owned and operated water companies; associate members are individuals with an engineering, scientific, or other professionals interested in the association. Conducts research and informs members of economic, legal and regulatory developments; encourages communication between investor-owned water companies and regulatory agencies. 1725 K Street, N.W., Suite 1212 Washington, D.C. 20006 (202) 833-8383 James Graff, Executive Director Elaine Krawiec (202) 833-8383	o o	Collaborating on National Drinking Water Week. Regularly receives Updates on National Pesticide Survey.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
National Conference of State Legislatures (NCSL) National organization of state legislators or legislative staff. Aims are: to improve the quality and effectiveness of state legislatures, to ensure states a strong, cohesive voice in the federal decision-making process; to foster interstate communication and cooperation. Provides training and development and service on current issues. Maintains Office of State-Federal Relations in Washington, D.C. to monitor federal legislation. 1050 17th Street, Suite 2100 Denver, CO 80265 (303) 623-7800 William Pound, Executive Director	o Have received a grant to prepare a guide for State legislators on the impacts of the Safe Drinking Water Act. o Working to support State Capacity and Institutional Support Initiatives. o Have received a grant to provide direct technical assistance to selected State legislatures. o Regularly receives Updates on status of National Pesticide Survey. o Reviewed NPS public information materials.
National Education Association (NEA) Professional organization and union of elementary and secondary school teachers, college and university professors, administrators, principals, counselors, and others concerned with education. 1201 16th Street, N.W. Washington, D.C. 20036 Don Cameron, Executive Director Joel Packer (202) 822-7329 TEMPORARY LOCATION:Coyne Building 1156 15th St., NW	o Association has been briefed on the requirements for non-transient non-community (NTNC) systems. o Have expressed an interest in publishing public education articles on drinking water. o **Met with Jeff Hass 5/90 to discuss possible cooperative efforts.** o **Looking into the possibility of providing them with a listing from FRDS of schools which are NTNC systems in answer to their request for a state-by-state inventory of affected public schools .**

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
National Environmental Health Association (NEHA)	
Professional society of persons engaged in environmental health for governmental public health agencies, public health and environmental protection education, industry, colleges, and universities. Conducts national professional registration program and continuing education program. Provides self-paced learning modules for field professionals. 720 S. Colorado Blvd. Suite 970, South Tower Denver, CO 80222 (303) 756-9090 Nelson Fabian, Executive Director	o Actively support Local Health Officials Initiative. o Published special newsletter on the Safe Drinking Water Act and the local health official's role. o Have received a grant to prepare a guide to agreements between State primacy agencies and local health departments. o Participating on the steering committee for the National Training Strategy. o Collaboration on National Drinking Water Week. o Regularly receives Updates on status of National Pesticide Survey.
National Governors Association (NGA)	
Governors of the 50 states, Guam, American Samoa, the Virgin Islands, the Northern Mariana Islands, and Puerto Rico. Serves as a vehicle through which governors influence the development and implementation of national policy and apply creative leadership to state problems. Keeps the federal establishment informed of the needs and perceptions of states.	o Provides support to State Capacity Initiative as part of OW agreement with OCEM. o Arranged briefings on National Pesticide Survey for governors' representatives in Washington. o Reviewed NPS public information materials. o One-on-one advance briefing on plans for NPS final report.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	**MOBILIZATION INVOLVEMENT**
444 N. Capitol Street, Suite 250 Washington, DC 20001 (202)624-5300 Raymond Scheppach, Executive Director Jim Solyst (202) 624-7739 Tom Curtis, Dir. Energy and Environment Committee 624-5389	o Regularly receives Updates on NPS status.
National Manufactured Housing Federation	
A group of associations of manufacturers and owners of manufactured housing created to represent their members before Federal and State governments.	o Inviting EPA participation in their conferences. o Involved in demonstration projects in TX and PA. o Assisting in information transfer to a number of small systems to facilitate compliance.
Mr. Dan Gilligan 1701 K Street, N.W. Suite 400 Washington, D.C. 20006 (202) 822-6470	

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
National Restaurant Association (NRA)	
Restaurants, cafeterias, clubs, contract food-service management, drive-ins, caterers, institutional food services, and other members of the food service industry; also represents establishments belonging to non-affiliated state and local restaurant associations in governmental affairs. 1200 17th Street, N.W. Washington, DC 20036 William P. Fisher, Executive V.P. Robert Harrington, Asst. Dir. of Tech. Service (202) 331-5900	o Association has been provided with information on the requirements for non-transient non-community systems.
National Rural Water Association (NRWA)	
NRWA's mission is improving the quality of life in rural and small towns. NRWA's members are small publicly owned water systems. P.O. Box 1428 Duncan, Oklahoma 73534 (405) 252-0629 Sam Wade, Executive Director John Trax (202) 333-8830	o Received a grant to provide training and technical assistance to small water systems. o Collaborate on National Drinking Water Week. o On the steering committee for the National Training Strategy. o Conduct demonstration projects in support of Mobilization objectives. o Regularly receives Updates on status of National Pesticide Survey. o **Requested 50 additional copies of *Meeting the Challenge* to distribute to States. (Sent out by Roger Barnes)**

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
National School Boards Association (NSBA) Federation of state school boards associations, and the boards of education in the District of Columbia and the Virgin Islands. Provides information on topics such as curriculum development and legislation and court decisions affecting education and school policy. 1680 Duke St. Alexandria, VA 22314 (703) 838-6722 Kate Herber (703) 838-6727	o Association has been briefed on the requirements for non-transient non-community systems. o **Met with Jeff Hass 5/90 to discuss possible Mobilization activities.** o **Has offered to identify schools in LA and TX which would benefit from a big brother help network.** o Regularly receives Updates on status of National Pesticide Survey.
National Soft Drink Association (NSDA) **Active members are manufacturers of soft drinks; associate members are suppliers of materials and services.** Objectives include government affairs on the national and state levels; discussion of industry problems; general improvement of operating procedures. 1101 16th St. NW Washington, DC 20036 (202) 463-6732 Dwight C. Reed, President Michael Redman, Technical Director (202) 463-6750	o Association has been briefed on the requirements for non-transient non-community systems. o **Met with Jeff Hass 5/90 to discuss possible Mobilization activities.** o **They have a well established network at the States level and has offered to possibly help with our State Capacity Initiative.** o **Have been briefed on the possiblity of establishing a big brother help network.**

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
National Water Alliance (NWA) Corporations, nonprofit organizations, trade associations, state and local governments, and interested individuals. Seeks to influence national policies regarding water resources and educate the public about problems affecting the nation's water supply. Disseminates information on water pollution and conservation; presents position papers to the U.S. Congress. 1225 I St., N.W., Suite 300 Washington, DC 20005 (202) 646-0917 Ron Linton, President	o Collaborate on National Drinking Water Week. o Regularly receives Update on status of National Pesticide Survey.
Rural Community Assistance Program (RCAP) RCAP is a national network of nonprofit organizations dedicated to better rural health, increased rural development, and enhanced quality of rural life. RCAP works to improve the delivery of water supply, waste disposal, and related services to rural, low-income residents. 602 S. King Street, Suite 402 Leesburg, Virginia 22075 Edwin Cobb, Executive Director (703) 478-8652	o Received a grant to provide technical assistance to small systems. o Serve on the steering committee for the National Training Strategy. o Conduct a wide variety of demonstration projects which support the Mobilization objectives.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION INVOLVEMENT
Water Wastewater Equipment Manufacturers Association (WWEMA) Manufacturers of equipment for water works, wastewater, and industrial wastes disposal plants; manufacturers' representatives and distributors. Sponsors public relations, public affairs, and marketing programs. P.O. Box 17402 Dulles International Airport 20041 (703) 661-8011 Dawn Kristof, President	o Collaborate in National Drinking Water Week. o Participate in the Low-Cost Small System Treatment Technology Initiative.

ADDITIONAL ORGANIZATIONS WITH A POSSIBLE ROLE

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
American Association of School Administrators (AASA) Professional association of administrators and executives of school systems and educational service agencies; school district superintendents; central, building, and service unit administrators; presidents of colleges, deans, and professors of educational administration; placement officers; executive directors and administrators of education associations; heads of private schools. 1801 N. Moore St. Arlington, VA 22209 (703) 528-0700 Richard D. Miller, Executive Director Virginia Vertiz Bruce Hunter	o Association has been provided with information on the requirements for non-transient non-community systems.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
American Bankers Association (ABA) Commercial banks and trust companies; combined assets of members represent about 95% of the industry. Serves banking industry through banker committee structure in areas of banking professions, banking organizations, communications, education, government relations, and memberships and administrative services. 1120 Connecticut Ave., N.W. Washington, DC 20036 (202) 663-5000 Don Ogilvie, Executive V.P.	o Association has been provided with information on th requirements for non-transient non-communities and is interested in follow-up activities.
American Council on Education (ACE) A council of colleges and universities, educational organizations, and affiliates. Represents accredited post-secondary institutions directly or through national and regional higher education associations; advocates on their behalf before Congress, the federal government, and federal and state courts. One Dupont Circle, N.W., Suite 800 Washington, DC 20036 (202) 939-9300 Robert H. Atwell, President Mr. Shelly Steinback (202) 939-9355	o Association has been provided with information on the requirements for non-transient non-communities and is interested in follow-up activities.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
American Federation of Teachers (AFT) Works with teachers and other educational employees at the state and local level in organizing, collective bargaining, research, educational issues, and public relations. Conducts research in areas such as educational reform, bilingual education, teacher certification, and evaluation. Represents members' concerns through legislative action; offers technical assistance. 555 New Jersey Ave., N.W. Washington, DC 20001 (202) 879-4400 Albert Shanker, President Gregory Humphrey (202) 879-4400	o Association has been provided with information on the requirements for non-transient non-communities and is interested in follow-up activities.
American Mining Congress (AMC) Domestic producers of coal, metals, and minerals; manufacturers of mining equipment; engineering, consulting, constructing, and leasing companies; financial institutions that serve the mining industry. 1920 N St. N.W., Suite 300 Washington, DC 20036 (202) 861-2800 John Knebel, President	o Association has been provided with information on the requirements for non-transient non-communities and is interested in follow-up activities.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	**MOBILIZATION'S INVOLVEMENT**
American Paper Institute U.S. manufacturers of pulp, paper, and paperboard. Gathers, compiles, and disseminates information; conducts research on scientific and technical problems; represents members in industry matters before governmental, transportation, industrial, and other agencies. 260 Madison Ave. New York, NY 10016 (212) 340-0600 Red Cavaney, President 1250 Connecticut Avenue, NW, Suite 210 Washington, DC 20036 Marilyn Haugen (202) 463-2591	o Institute has been provided with information on the requirements for non-transient non-community systems and is interested in follow-up activities.
American Petroleum Institute Producers, refiners, marketers, and transporters of petroleum and allied products such as crude oil, lubricating oil, gasoline, and natural gas. Seeks to maintain cooperation between government and industry on all matters of national concern; fosters foreign and domestic trade in American petroleum products; promotes the interests of the petroleum industry;	o Institute has been briefed on requirements for non-transient non-communities and is interested in follow-up activities.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
encourages the mutual improvement of members. 1220 L St. N.W. Washington, DC 20005 (202) 682-8000 Charles DiBona, President Stephanie Meadows, Senior Regulatory Analyst (202) 682-8475	
American Society of Agricultural Engineers (ASAE) Professional and technical organization of individuals interested in engineering and technology for agriculture. Develops engineering standards used in agriculture. 2950 Niles Road St. Joseph, MI 49085-9659 (616) 429-0300 Roger Castensen, Executive Vice-President	o Society has been provided with information on the requirements for non-transient non-community systems.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
American Textile Manufacturers Institute (ATMI) Textile mill firms operating machinery for manufacturing and processing cotton, man-made, wool, and silk textile products; includes spinning, weaving, bleaching, finishing, knitting, and allied plants; does not include manufacturers of hosiery or firms that produce man-made fibers and yarns by a chemical process. Operates public relations program for the industry, government relations program, textile market program, and statistical and economic information service. 1801 K St. N.W., Suite 900 Washington, DC 20006 (202) 862-0500 Carlos Moore, Executive V.P. Nancy Weinberg (202) 862-0580	o Institute has been briefed on the requirements for non-transient non-community systems and is interested in follow-up activities.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
Association of Physical Plant Administrators of Universities and Colleges (APPAUC) Represents administrators in colleges and universities; members in other categories are school districts, governmental installations, etc. Individuals who have responsibilities for buildings and grounds of the institutions. 1446 Duke Street Alexandria, VA 22314-3492 Wayne Leroy, Associate Vice President (703) 684-1446	o Association has been provided information on the requirements for non-transient non-community systems.
Council for American Private Education (CAPE) Coalition of national organizations serving the interests of private schools (K-12). Weeks to promote understanding and cooperation between private schools, public schools, and the government at all levels; to encourage the sharing of resources among member organizations and their schools; to stimulate the creation and effectiveness of	o Council has been provided information on the requirements for non-transient non-community systems.

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
state and local private school groups; to formulate and disseminate public policy concerning private schools at the national, state, and local levels. 1625 I St., NW, Suite 412 Washington, DC 20006 (202) 659-0016 Robert L. Smith, Executive Director Carol Ruple (202) 659-00016	
Council of Chief State School Officers The 50 chief state school officers (state superintendents and commissioners of education) and the heads of education agencies in the D. C., Guam, American Samoa, Puerto Rico, the Virgin Islands, and the Northern Mariana Islands. Expresses members' views on educational issues before civic and professional organizations, federal agencies, Congress, and the public. 379 Hall of States 400 N. Capitol St., N.W. Washington, DC 20001-1511 Gordon M. Ambach, Executive Director Carnie Hayes (202) 393-8161	o Association has been provided with information on the requirements for non-transient non-community systems.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
Independent Petroleum Association of America (IPAA) Independent oil and gas operators, royalty owners, and others (suppliers, drilling contractors, bankers, oil attorneys, trucking contractors, and rig building contractors) interested in the production of crude oil and natural gas. Represents small oil and natural gas producers in legislative and regulatory areas at the federal level. 1101 16th St., N.W. Washington, DC 20036 (202) 857-4722 H.B. Scoggins, Jr., President Mr. Jim Groninger (202) 857-4722	o Association has been briefed on the requirements for non-transient non-community systems.
National Association of Conservation Districts A nonprofit organization serving as the national instrument of its membership - 3,000 local districts and 54 states and territorial associations. Conservation districts, local subdivisions of state government, work to promote the	o The association has been briefed on Mobilization and has expressed an interest in maintaining a dialogue with us. o Met with National Pesticide Survey's director to discuss contents and framework of NPS final report. o Regularly receives Updates on NPS status.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	**MOBILIZATION'S INVOLVEMENT**
conservation, wise use and orderly development of land, water, forests, wildlife, and related natural resources. 509 Capitol Court, NE Washington, DC 20002 (202) 547-6223 Eugene Lamb	o Offered to distribute materials for Mobilization.
National Association of Counties Only national organization in US representing county governments. Purpose is to improve county government, act as liason with other levels of government, act a voice of county government and advance public understanding of rate of counties. 440 1st St., NW Washington, DC 20001 (202) 393-6226	o The association has been briefed on Mobilization and has expressed an interest in maintaining a dialogue with us. o Reviewed National Pesticide Survey's public education materials including health effects information. o Represented on NPS regional/State/County workgroup. o Met with NPS director to discuss contents and framework of final report. o Briefed one-on-one by NPS staff when appropriate. o Regularly receives Update on status of Survey.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
National Association of Elementary School Principals (NAESP) Professional association of principals engaged in administration and supervision of schools with elementary grades, including teaching principals, assistant or vice principals, and supervising principals; persons engaged in educational research and in the professional education of elementary school administrators 1615 Duke St. Alexandria, VA 22314-3483 (703) 684-3345 Samuel G. Sava, Executive Director Edward Keller (703) 684-3345	o Association has been briefed on the requirements for non-transient non-community systems.
National Association of Independent Schools (NAIS) Independent elementary and secondary school members; regional associations of independent schools and related associations. Provides curricular and	o Association has been briefed on requirements for non-transient non-community systems.

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
administrative research and services; conducts seminars. Offers computerized services. 75 Federal Street Boston, MA 02110 (617) 451-2444 John C. Esty, Jr., President 11 Dupont Circle, NW, Suite 210 Washington, DC 20036 Kellen Canavan (202) 462-3886	
National Association of Manufacturers (NAM) Manufacturers cooperating are non-manufacturers having a direct interest in or relationship to manufacturing. Represents industry's views on national and international problems to government. Maintains public relations program. Reviews current and proposed legislation, administrative rulings, and interpretations, judicial decisions, and legal matters affecting industry. 1331 Pennsylvania Ave., N.W., Suite 1500 N. Washington, DC 20004 (202) 637-3000 Alexander B. Trowbridge, President	o Association has been provided with information on the requirements for non-transient non-community systems.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
National Association of Private Schools for Exceptional Children (NAPSEC) Is concerned with the needs of private schools that work with exceptional children. Provides a forum for exchange among facilities serving exceptional students and acts as a national voice for these facilities. Informs parents and the public of special services available to exceptional students, in an effort to match the student with the program best fitting his or her needs. 1522 K Street, NW, Suite 1032 Washington, DC 20005 (202) 408-3338 Kenneth C. Terrell, Executive Director	o Association has been brief on requirements for non-transient non-community systems.

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
National Rural Electric Cooperative Association Rural electric cooperative systems, public power districts, and public utility districts in 46 states. Activities include: management institutes, professional conferences; training and consulting services; legal representation; energy efficiency and conservation campaigns. 1800 Massachusetts Ave., NW Washington, DC 20036 (202) 857-9500 Bob Bergland Exec. V.P.	
National Association of Secondary School Principals (NASSP) Secondary school principals and assistant principals; other persons engaged in secondary school administration and/or supervision; college professors teaching courses in secondary education. Sponsors National Association of Student Councils, National Honor Society, and National Junior Honor Society. 1904 Association Dr. Reston, VA 22091 (703) 860-0200 Scott D. Thompson, Exec. Dir.	o Association has been brief on requirements for non-transient non-community systems.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
National Coal Association (NCA) Producers and sellers of coal, equipment suppliers, other energy suppliers, consultants, and coal transporters. Serves as liaison between the industry and federal branches and agencies of government. Keeps members informed of legislative and administrative actions concerning taxation. Works with industry, consumers, and government agencies to control air pollution. Seeks improved conditions for export of steam and metallurgical coal. 1130 17th St., N.W. Washington, DC 20036 (202) 463-2625 Richard L. Lawson, President David Branard (202) 463-2625	o Have provided information on the requirements for non-transient non-community water systems.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
National Licensed Beverage Association (NLBA) Bars, taverns, restaurants, cocktail lounges, and hotels selling alcoholic beverages for on-premises consumption in states where such sales are legal. Conducts server education programs. Initiated promotion of May as National Tavern Month, an industry wide campaign. 4214 King St., W. Alexandria, VA 22302 (703) 671-7575 Gerald E. Murphy, Executive Director Kevin Kilgren (202) 638-6400 John Chwat (202) 638-6400	o Association has been provided with information on the requirements for non-transient non-community systems.
National Parent Teachers Association (NPTA) 6.6 million member association focusing on the concerns of children and youth. 1201 16th Street, NW, Suite 619 Washington, D.C. 20036 Carolyn Henrich, Governmental Affairs Representative (202) 822-7878	o Association has been briefed on the requirements for non-transient non-community systems.

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
National Petroleum Refiners Association NPRA Petroleum, petrochemical, and refining companies. 1899 L St., N.W., Suite 1000 Washington, DC 20036 (202) 457-0480 Urvan R. Sternfels, President Maurice McBride, Government Affairs Representative (202) 457-0480	o Association has been provided with information on the requirements for non-transient non-community systems.
Pharmaceutical Manufacturers Association (PMA) Manufacturers of ethical pharmaceutical and biological products that are distributed under their own labels. Encourages high standards for quality control and good manufacturing practices; research toward development of new and better medical products; enactment of uniform and reasonable drug legislation for the protection of public health. Disseminates information on governmental regulations and policies, but does not maintain or supply information on specific products, prices,	o Association has been provided with information on the requirements for non-transient non-community systems.

ASSOCIATION	**MOBILIZATION'S INVOLVEMENT**
distribution, promotion, or sales policies of its individual members. 1100 15th St., N.W. Washington, DC 20005 (202) 835-3400 Gerald J. Mossinghoff, President Tom White, Regulatory Affairs Representative (202) 835-355	
U.S. Catholic Conference (USCC) Civil entity of the American Catholic Bishops "assisting them in their service to the church in this country by uniting the people of God where voluntary, collective action on a broad diocesan level is needed." 3211 4th Street, NE Washington, DC 20017 (202) 541-3000 Rev. Msgr. Daniel Hoye, General Secretary Richard E. Duffy (202) 541-3000	o Conference has been briefed on the requirements for non-transient non-community systems. o **Requested 400 additional copies of Meeting the Challenge to distribute to their school administrators and facilities managers.**

SUMMARY OF MOBILIZATION ORGANIZATIONS

ASSOCIATION	MOBILIZATION'S INVOLVEMENT
U.S. Department of Education (USDOE) - Office of Private Education Office responsible for advocacy and liaison for National non-public schools and religious schools. 400 Maryland Avenue, S.W., Rm 4137 Washington, D.C. 20202 Dr. Charles O'Malley (202) 401-1365 FTS 441-1365	o USDOE has been provided with information on the requirements for non-transient non-community systems.